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ABSTRACT

In 1973-74, Tennessee Technological University developed and implemented a model for systematic data gathering and for making evaluations of their programs in teacher education. During 1976-77, four distinct groups of subjects participated in this longitudinal study. Basic instrumentation and procedures were pilot tested during the first year of the study and included: (1) University records; (2) principals' evaluations; (3) California F-Scale; (4) a measure of the satisfaction of the students of the graduates; and (5) observation by trained observers. Descriptive statistics, intercorrelations and comparisons were computed for all data obtained in the study. The major findings of the study for the first-year subjects were similar to those reported in the first three years of the study. Detailed comparisons across four, three, and two years of the study, for the individuals that entered the project in, respectively, 1973, 1974, and 1975 indicated few differences. The differences that were noted were minor and, in most cases, no explanation can be offered for the changes. Comparisons were also made of all first-, second-, and third-year subjects. Again, only minor differences were noted. In summary, it appeared that the subjects who had been in the study for more than one year had changed little. Also it appeared that those students who entered the study in 1976 were little different from their counterparts who were in the initial years of the project. Factor analysis of data obtained with the Classroom Observation Record gave results similar to that reported in the literature. A study of the results of the California F-Scale indicated that less authoritarian subjects exhibited many of the characteristics of good teachers reported in the literature. Based on the findings of the study, several conclusions were advanced and recommendations made for continuation of the study. (MJB)

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**STUDY OF THE TEACHER PREPARATION PROGRAMS OF
TENNESSEE TECHNOLOGICAL UNIVERSITY**

REPORT 77-2

**TENNESSEE TECHNOLOGICAL UNIVERSITY
TEACHER EVALUATION MODEL - YEAR IV**

JUNE, 1977

(With Supplement)

U S DEPARTMENT OF HEALTH,
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Tennessee Technological University
College of Education
Cookeville, Tennessee

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ABSTRACT

TENNESSEE TECHNOLOGICAL UNIVERSITY TEACHER EVALUATION MODEL-YEAR IV

In 1973-74 Tennessee Technological University developed and implemented a model for systematic data gathering and for making evaluations of the programs in teacher education. During 1976-77 four distinct groups of subjects participated in this longitudinal study: 23, 1971, 72, or 73 graduates; 22, 1974 graduates; 25 1975 graduates; and 26 1976 graduates. Detailed data were collected on each subject by the use of standardized instruments administered by specially trained graduate assistants or from University records. Basic instrumentation and procedures were pilot tested during the first year of the study and included: (1) University records, (2) principals' evaluations, (3) California F-Scale, (4) a measure of the satisfaction of the students of the graduates; and (5) observation by trained observers. All data obtained in the study were classified, coded, and key punched for analysis. Descriptive statistics, intercorrelations and comparisons were computed.

The major findings of the study for the first year subjects were similar to those reported in the first three years of the study. Detailed comparisons across four, three and two years of the study, for the individuals that entered the project in, respectively, 1973, 1974, and 1975 indicated few differences. The differences that were noted were minor and in most cases no explanation can be offered for the changes. Comparisons were also made of all first, second, and third year subjects. Again, only minor differences were noted. In summary, it appeared that the subjects who had been in the study for more than one year had changed little. Also it appeared that those students who entered the study in 1976 were little different from their counterparts that were in the initial years of the project. Factor analysis of data obtained with the Classroom Observation Record gave results similar to that reported in the literature. A study of the results of the administration of the California F-Scale indicated that those subjects who appeared to be less authoritarian exhibited many of the characteristics of good teachers reported in the literature. Based on the finds of the study, several conclusions were advanced and recommendations made for continuation of the study.

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PREFACE

For the past seven years, increasing attention has been given to the evaluation of the graduates of the teacher preparation programs of Tennessee Technological University. Followup studies of all graduates have been conducted on a regular basis and special studies have been performed to provide input for the overall operation of the programs of the University. In order to improve the system of evaluation at the institution, an intensive longitudinal study was initiated in the fall of 1973 of the graduates. This study has continued through 1976-77 utilizing a modified model that was previously developed for evaluating graduates of teacher education programs. Reports of the results of the application of the model for the period 1973-74 through 1975-76 are contained in, respectively, Reports 74-4, 75-4 and 76-1 available from the Office of the Associate Dean of the College of Education.

The purpose of this present report is to present the findings of the fourth year of the application of the Tennessee Technological University Teacher Evaluation Model. In turn, this report will be utilized in providing input into the total system of teacher education at the University. This report is by no means complete; however, it will serve to inform the reader of the basic procedures used and the preliminary findings of the fourth year of the study. In order to conserve paper, only essential information has been provided.

The longitudinal study has received considerable attention from individuals at other institutions in not only the United States but several foreign countries. Therefore, this report contains a summary of the results of the first three years of the operation of the model, a listing of other reports that are related to the study and copies of the instrumentation employed with the model (Supplement). This report should provide the necessary information for an institution to replicate the study.

The author of this report is indebted to the efforts of several individuals that have been extensively involved in working with the project during the past year. These individuals include: Hazel A. Simcox, Graduate Assistant; Jeannie L. Smith, Graduate Assistant; Dale A. Hullander, Graduate Assistant; Tom Ladd, Graduate Assistant; Linda H. Carroll, Secretary; Sharon A. Heard, Secretary; Glenda S. Qualls, Analyst; and Dr. John D. Thomas, Associate Professor of Educational Psychology and Counselor Education. In addition, thanks are extended to all principals, teachers, superintendents, and other school personnel that provided technical assistance, data, and allowed the project staff to work with them in various ways.

Jerry B. Ayers
Associate Dean
College of Education
June, 1977

CHAPTER I

INTRODUCTION AND PROCEDURES

Beginning in 1970, with the creation of the Office of the Administrative Assistant for Special Services and continued by the Offices of the Assistant to the Dean and Associate Dean, a series of separate studies was begun related to the evaluation of students enrolled in and graduates of the teacher education programs of Tennessee Technological University. The research has been systematic and designed to meet Standards 5.1 and G-5.1 established by the National Council for Accreditation of Teacher Education, as well as to answer such questions as course effectiveness, the proper sequence of courses, factors related to achievement, success of the graduates after entering the teaching profession, better methods of instruction, and the degree of achievement of the stated competencies of the teacher education program. It should be noted that there are companion studies designed to evaluate the programs designed to prepare school service personnel at the M.A. and Ed.S. levels (see Appendix A).

The works of Sandefur and Adams (1,2,3) have led to the development of a model (Tennessee Technological University Teacher Evaluation Model) for the evaluation of graduates of the programs of the University designed to prepare teachers at the bachelor's and master's levels (4). During 1973-74 the Evaluation Model was implemented and continued during 1974-75 and 1975-76 with funds available from the budget of the College of Education of the University. The results of the application of the model were summarized in Reports 74-4, 74-5, and 76-1 (5,6,7).

The fourth year of the application of the Evaluation Model was initiated in the fall of 1976. The remainder of this chapter describes the purposes of the fourth year of the operation of the model and limitations of and the procedures used in conducting the major phases of the study. Chapters II and III contain presentations and interpretations of the data for the current year of the study and comparisons with earlier years. Chapter IV describes the results of several special studies that have been conducted as a part of the study. Chapter V contains a summary, conclusions, and recommendations and tentative plans for continuation of the study during 1977-78. Appendix A contains a summary of all of the evaluative studies that have been conducted as a part of the efforts of the Office of the Associate Dean and Appendix B (Supplement) contains copies of and directions for the use of selected instruments that have been employed in conjunction with implementation of the model.

Purposes

The purposes of the study that are reported in this document include the following:

1. To provide information for faculty and administrators concerned with teacher education programs at Tennessee Technological University in making decisions pertinent to curriculum evaluation and development.
2. To aid in the process of making long-range plans for improving the total program of the University with particular emphasis on the teacher education programs.
3. To continue the development and refinement of the Tennessee Technological University Teacher Evaluation Model.

Specific objectives to be accomplished as a part of this study were as follows:

1. To continue studying in a longitudinal manner those subjects who had previously participated in the application of the Model (1973-74 through 1975-76).
2. To provide a descriptive profile of a sample of 1976 graduates of the teacher education programs of Tennessee Technological University.
3. To determine relationships among selected variables that were measured as a part of the total study.
4. To provide comparisons between the graduates of the teacher education programs of Tennessee Technological University with those who might be considered as effective teachers as defined in the original literature of teacher education.
5. To provide effective dissemination of relevant research data to the faculty and administration of the University associated with the teacher education programs.
6. To provide information and suggestions for curriculum evaluation and development based on empirical research data.
7. To continue to evaluate the procedures employed in the study and to make long-range plans for modifications and refinement of the basic Evaluation Model.

Limitations

The general limitations for this study are as follows and are primarily concerned with sampling techniques:

1. Subjects for the study were individuals who were 1976 graduates of a bachelor's or master's level program at Tennessee Technological University designed to prepare them as teachers or they were individuals who participated in the past three years of the study.

2. Subjects were teaching in the State of Tennessee within a 100-mile radius of Cookeville, Tennessee. (Approximately 70 percent of all graduates of the teacher education programs of the University, that are teaching, reside within the specified geographical limits of the study.)
3. The subjects volunteered to participate in the study.
4. The principals and superintendents under whom the subject worked agreed that the graduate could participate in the study.
5. The sample sizes of 1973, 1974 and 1975 graduates were reduced by about one-third due to attrition from the teaching profession or moving out of the geographical limits of the study. Therefore, the findings of the study may be limited in their applicability to the population of graduates from the University and also other institutions.

Limitations 1 through 4 above were imposed in order to make the study more feasible regarding the followup of the subjects. Voluntary participation was deemed necessary due to the extensive collection of data and due to the cooperation required from the subjects for classroom observations and completion of forms. The limitation of a 100-mile radius of Cookeville, Tennessee, was necessary because of the limited travel funds available and the time available for the research assistants to visit in the classrooms of the participating subjects.

• Procedure

The purpose of this section is to provide the reader with a brief description of the procedures employed in collecting data utilized in this study. This section is concerned specifically with selection of subjects, implementation of the study, training of staff, and methods of data collection and analyses. Figure 1 shows a PERT chart of the major activities of the project from September, 1976 through June, 1977. In order to conserve space the reader is referred to Reports 74-4, 75-4 and 76-1 (5,6,7) or Appendix B (selected issues of report) for a more complete description of such topics as instrumentation and training of observers.

Selection of Subjects

Four groups of subjects participated in the 1976-77 phase of the project. The first group of individuals (1971, 1972, and 1973 graduates) was participating in the project for the fourth year, while the second group (1974 graduates) was participating for the second year. The third and fourth groups consisted of those individuals that received either the B.S. or M.A. in, respectively, 1975 or 1976. Table 1 shows a summary of the number of individuals (by year of graduation) participating in each phase of the study, and Table 2 shows a summary of the grade level in which the subjects were teaching during 1976-77.

Table 1

Number of Subjects by Year of Graduation Participating
in Each Phase of Study

Phase of Study	1970	1971	1972	1973	1974	1975	1976	Total
1973-74	0/6*	0/12	0/19	4/18	---	---	---	4/49
1974-75	**	0/8	0/14	4/10	16/33	---	---	20/65
1975-76	**	0/6	0/12	0/8	8/18	12/32	---	20/76
1976-77	**	0/5	0/12	0/6	6/15	5/20	5/21	16/79

* No. M.A./No. B.S.

** Dropped from Study by original design.

Table 2

Sample for Intensive Followup 1976-77**

Year,	K	1-3	4-7	8-12**	SPED	Total		
1971	0/1	0/0	0/1	0/3	0/0	0/5		
1972	0/4	0/0	0/2	0/3	0/2	0/12		
1973	1/1	0/3	0/0	0/1	0/0	1/5		
1974	2/5	0/2	0/1	1/4	2/3	2/0	0/0	7/15
1975	2/5	1/2	0/2	1/6	0/2	1/2	0/1	5/20
1976	0/1	0/6	2/2	1/4	2/2	0/3	0/3	5/21
TOTAL	5/17	1/13	2/5	3/17	4/10	3/11	0/5	18/78

* No. M.A./No. B.A.

** Teaching areas: 8-English, and 1 each in Science, Business, Music, Mathematics, History and Physical Education.

Table 3 shows a summary of the reasons and number of individuals failing to participate in the 1976-77 phase of the study. This table shows the

number withdrawing from the study by original date of graduation from the University. Between 1975-76 and 1976-77, 26 individuals withdrew; 7 individuals (26.9 percent) felt the objectives of the project were not compatible with personal objectives, 3 individuals (11.5 percent) moved into non-teaching positions in the schools, 6 individuals (23.1 percent) left the teaching profession and 10 individuals (38.5 percent) gave no reason or could not be located. The overall attrition between the two years was 26 individuals or 37.1 percent. This figure is comparable with the level of attrition between the first and second and second and third years of the study (6,7):

Table 3

Reasons and Number of Individuals Dropping out of Study From 1975-76 to 1976-77 (By Year of Graduation From University)

Reason	1971	1972	1973	1974	1975	Total
Felt Objectives of Project Were not Comparable with Personal Objectives	0	0	0	2	5	7
Moved into Non-teaching Position in Schools	1	0	1	1	0	3
Left Teaching Profession	0	0	1	0	5	6
No Reason	0	1	0	0	2	3
Unable to Locate (No Response to Questionnaires, Phone Calls or No Forwarding Address at Post Office)	0	0	0	0	7	7
Total	1	1	2	3	19	26

As a part of the routine followup activities of the Office of the Associate Dean, all 1976 graduates of the teacher education programs were contacted in the late fall of 1976 (332 B.S. graduates and 166 M.A. graduates). As a result of this initial survey (8), all graduates who were teaching within the defined geographical limits of the project were contacted by mail and/or telephone and asked to participate in this study. A total of 21 B.S. and 5 M.A. level graduates volunteered to participate (see Tables 1 and 2).

Figure 2 shows a map of selected portions of Tennessee. The numerals within each county indicate the number of individuals who participated in the study during the current year. Table 4 shows a summary of the number of

Table 4

Number of Subjects by Date of Graduation and
County in Which Teaching in 1976-77

County	1971	1972	1973	1974	1975	1976	Total
Bledsoe	1			1			2
Clay		1					1
Coffee				1		1	2
Cumberland			1	2		1	4
DeKalb		1			3		4
Fentress			1	1	4	3	9
Jackson				1	1	1	3
Knox			1			1	2
Macon	1	1					2
McMinn			1			1	2
Morgan				1			1
Overton		1		5			6
Putnam	2	2		7	4	5	20
Rhea	1				1		2
Roane				1	3		4
Robertson						2	2
Rutherford		1					1
Sequatchie				1		2	3
Scott		1	1				2
Smith		1			2	1	4
Van Buren						3	3
Warren		3			2	3	8
White				1	5	1	7
Wilson			1			1	2
Totals	5	12	6	22	26	26	96

individuals by year of graduation participating from each county.

Instrumentation

Instrumentation for the 1976-77 study was identical to that used during the past several years of the project with the exception of the addition of the Tuckman Teacher Feedback Form (9). This instrument was added to the study in an effort to improve data gathering capabilities. The reader is referred to Report 74-4 (5) for more information with regard to instrumentation or to Appendix B of the edition of this report containing the supplement.

Training of Observers

The procedures for the training of observers were outlined in Report 74-4 (4). Appendix B of those versions of this report containing a supplement explain the procedures in more detail.

Collection of Data

Data for this study were collected by mail surveys, interviews and observations in the classrooms of graduates. Initially, all subjects were contacted by mail and dates were set for observational visits by the graduate research assistants (both previous subjects and new subjects in the study). These dates were verified with the appropriate administrative authorities in each school and school system. A letter explaining the project in detail was sent to all subjects, principals, and superintendents. The subjects, their principals and superintendents were invited to make comments and suggestions for conducting the study.

Each subject was visited on at least one occasion by the trained graduate assistant. The observer spent approximately a half day in each subject's classroom and completed from two to six 20 minute periods observing using a ten category system of interaction analysis. At the completion of all observations, the Classroom Observation Record and the Tuckman Teacher Feedback Form were completed.

The appropriate version of the Student Evaluation of Teaching (SET) was administered during the visit. The instrument was completed by at least one class of students. While the students were completing the SET, subjects who were participating in the project for the first year completed the California F-Scale.

During the course of the day the observer interviewed each subject with regard to their opinions and ideas about the teacher preparation program of the University. Also, the observers asked each principal to complete the Principals Questionnaire and also the Teacher Evaluation by Supervisor Form.

Pertinent data such as quality point average, National Teachers Examination scores, etc. were collected from the permanent records of all 1976 graduates.

Analysis of Data

Basic descriptive and inferential statistical methods were used to analyze the data. These techniques are described in more detail at the appropriate points in this report.

Summary

In summary this chapter contains a brief overview of the total operation of the 1976-77 phase of the longitudinal study of the graduates of the teacher education programs of Tennessee Technological University. Included in this chapter has been a summary statement of the major purposes of the

project, limitations of the study and the major procedures employed in conducting the study. Figure 3 shows a chart of the major sources of data instrumentation employed in the evaluation of the graduates. It will be noted that data was gathered from four major sources including self or personal, from supervisors and principals, students of the graduates, and by independent observers. Included in the chart is a listing of the major instruments used in gathering data from the four primary sources. The major purposes and procedures of the project have remained virtually unchanged over the past four years of the study. It is felt that the information available from this report and the companion reports completed in 1974, 1975, and 1976 will be useful to those individuals attempting to replicate this study. It should be pointed out that additional information and specifics related to methodology employed in this study are available from the Office of the Associate Dean, College of Education.

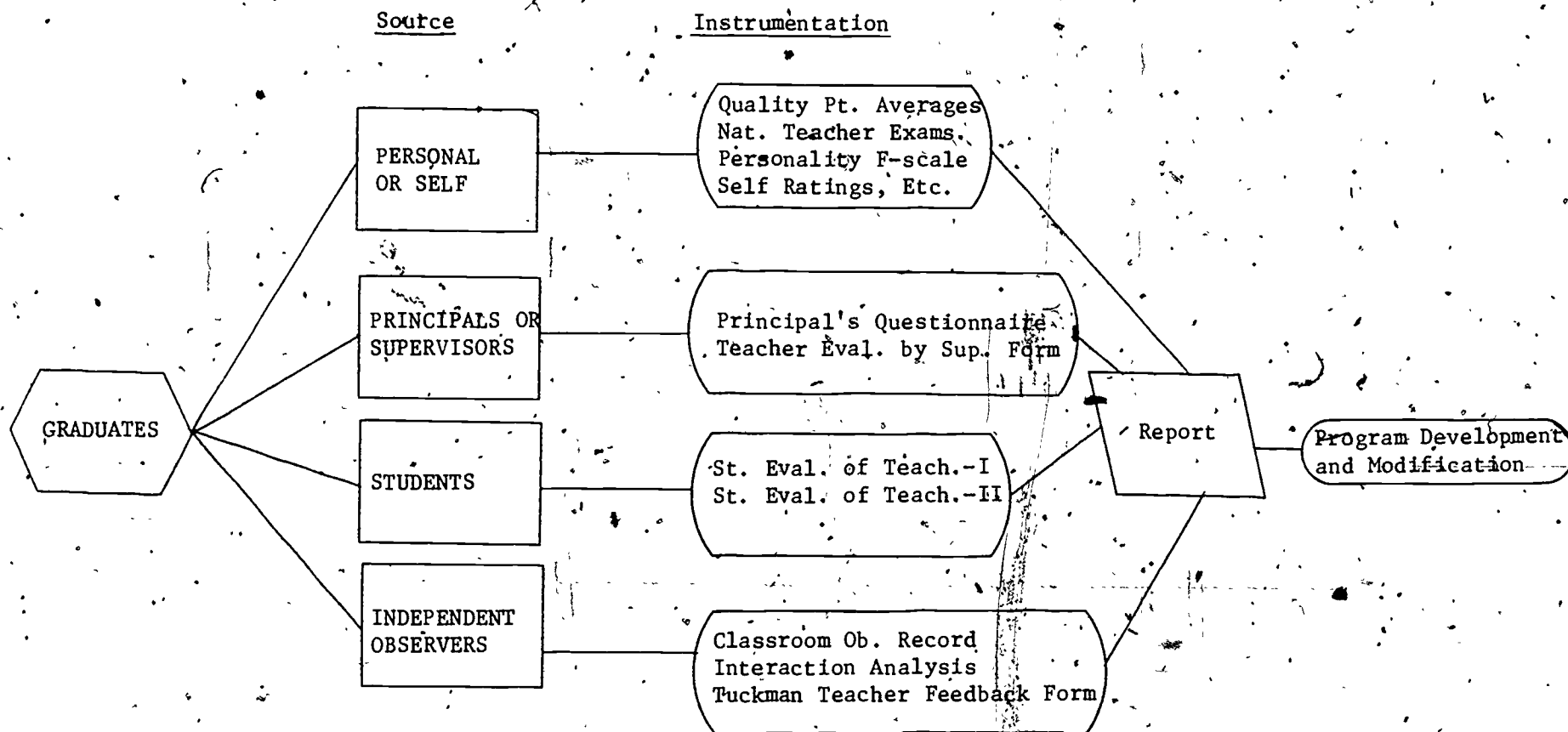


Figure 3. Summary of Sources of Data, Instrumentation and Use of Data.

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CHAPTER II

PRESENTATION AND ANALYSIS OF DATA, 1976 B.S. GRADUATES

Chapter II contains a presentation and analysis of data for those individuals who received the B.S. in 1976 and were in their first year of the study. Because of the restricted size of the sample (N=5), no attempt was made to summarize the data gathered on the 1976 M.A. graduates in the study. Means, standard deviations, frequency counts, correlations and appropriate statistical tests are presented in tabular form for the variables studied. Explanatory information is included to facilitate the reader's understanding and usage of the report.

The data are presented in ten parts with each corresponding to a major instrument used to gather information. Each section contains summary statistics as well as a discussion of the relevant variables that were correlated in the study. Table 5 shows an intercorrelation matrix of selected variables, which is applicable to the B.S. graduates. No attempt was made to show a complete matrix of all variables. Only variables significant at or beyond the .05 level will be discussed in the remainder of this report.

An understanding of Chapter I of this report is essential for the effective utilization of the remainder of the report. Also, Reports 74-4, 75-4 and 76-1 should be used as companion guides to obtain additional information that may be of interest to the reader. The attention of the reader is also called to the Appendices to this report. The Appendices contain a complete listing of all studies that have been conducted in the past seven years that may provide additional useful information about the evaluation studies that have been conducted by the College of Education. Selected reports contain copies of the complete instrumentation.

Career Base Line Data

This section contains a summary of preliminary career base line data for the B.S. 1976 subjects in this study. Included in this section is information taken from each subject's college transcript and other records available in the College of Education of the University. In general, it appeared that the subjects in this study may have achieved slightly above the mean for all graduates of the College of Education.

Table 6 shows a summary of the teaching level of the 21 B.S. level individuals. It will be noted that almost 43 percent were teaching in the lower grades.

The mean number of years of teaching experience (including 1976-77 as one year) was 1.3 years and the median years was 1.0. Some individuals in the study had taught prior to completing their degree and those individuals that had taught part of the 1975-76 school year listed their experience as one additional year.

TABLE 5

CORRELATION MATRIX OF SELECTED VARIABLES—1976 B.S. GRADUATES IN FIRST YEAR OF STUDY*

	X	SD	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
National Teacher Examination																																															
1. Teaching Area Exam	632.1	54.5	21	1000	155	<u>902</u>	328	098	<u>533</u>	-336	-132	-235	-046	-108	269	200	252	-230	412	351	-290	028	171	249	280	-309	-302	035	-016	216	039	044	-042	-028	-202	-080	-045	-126	031	-286	-209	-257	-101	072	023	-119	012
2. Prof. Ed. Test	65.5	31.4	21		1000	163	236	<u>355</u>	287	<u>-372</u>	<u>-569</u>	<u>-388</u>	-145	-299	-017	101	-358	-243	-342	-252	-180	<u>561</u>	-251	-119	234	069	130	141	037	249	-331	096	-067	-036	107	003	059	171	181	006	198	000	041	188	113	124	136
3. Composite	1228.8	87.3	21			1000	298	231	<u>727</u>	-271	-308	-243	021	-200	215	262	435	612	<u>490</u>	<u>519</u>	-370	-047	-111	034	207	-142	-127	079	-010	337	038	194	105	100	-153	-049	005	027	054	-203	063	-172	-068	231	121	081	120
Quality Point Average																																															
4. Major Field	3.39	0.48	21				1000	<u>431</u>	<u>405</u>	-222	-146	-294	-060	-180	-445	-376	-287	074	343	-211	150	<u>522</u>	-099	-062	-276	<u>-449</u>	<u>-499</u>	-286	-288	-183	-226	<u>-403</u>	-392	-352	-561	<u>-449</u>	-377	001	-282	<u>-479</u>	-050	-276	-362	<u>-416</u>	<u>-545</u>	<u>-648</u>	<u>-524</u>
5. Overall	3.14	0.48	21					1000	<u>495</u>	095	<u>-379</u>	-106	-203	-078	-387	007	-227	074	343	-211	150	<u>522</u>	-099	-062	-276	<u>-449</u>	<u>-499</u>	-286	-288	-183	-226	<u>-403</u>	-392	-352	-561	<u>-449</u>	-377	001	-282	<u>-479</u>	-050	-276	-362	<u>-416</u>	<u>-545</u>	<u>-648</u>	<u>-524</u>
American College Test																																															
6. Composite	19.6	3.5	21					1000	-069	-183	-007	-032	-091	-057	028	082	345	463	293	-315	037	-061	055	376	138	046	238	-046	371	-082	177	-094	-285	-017	-082	094	077	122	-047	271	150	025	103	-165	121	150	
Principal Evaluation																																															
7. I	4.3	0.6	21						1000	<u>356</u>	<u>792</u>	<u>667</u>	-304	-179	227	250	<u>617</u>	-077	253	089	-331	210	121	-030	283	-137	285	278	-328	-029	-057	<u>-406</u>	-358	-152	-337	-256	-339	-241	036	-009	-129	-215	<u>-430</u>	-521	-027	-087	
8. II	4.4	0.7	21							1000	<u>360</u>	<u>405</u>	164	-120	-356	-015	094	-020	-151	386	-031	204	125	265	128	-027	177	-025	-287	212	-049	-354	-261	-079	-200	-283	-296	-265	-035	-008	-113	-168	-376	-280	-327	-186	
9. III	4.4	0.7	21								1000	<u>780</u>	-290	-179	227	250	<u>617</u>	-077	253	089	-331	210	121	033	215	-232	285	278	-213	-033	-057	<u>-406</u>	<u>-417</u>	-152	<u>-391</u>	-324	-339	-365	-166	-175	-208	-377	<u>-430</u>	-260	-114	-087	
10. IV	4.4	0.7	21									1000	324	-282	208	366	<u>765</u>	-141	271	216	<u>-454</u>	<u>-524</u>	-202	-051	331	084	283	089	-320	-091	144	-301	-265	-276	<u>-575</u>	-305	-386	-313	026	204	-218	-234	-362	-188	-090	-177	
California P-Scale																																															
11. P-Scale	97.1	15.9	21											1000	-143	291	173	-134	-006	087	-230	032	207	-224	426	359	263	263	-222	171	377	136	122	-014	<u>439</u>	<u>485</u>	328	-057	<u>414</u>	313	127	251	268	230	139	310	291
Student Evaluation of Teaching-I																																															
12. I	344.7	32.3	15												1000	132	<u>422</u>	-109	348	<u>627</u>	-128	243	<u>558</u>	108	307	-075	237	-139	170	015	-075	349	367	<u>488</u>	281	357	448	124	433	366	-345	435	<u>473</u>	245	<u>491</u>	274	454
13. II	331.8	35.2	15													1000	<u>571</u>	141	-220	<u>556</u>	<u>-964</u>	-169	053	060	<u>644</u>	078	075	079	-047	<u>601</u>	062	<u>645</u>	323	114	100	189	277	-094	293	294	210	041	096	164	183	442	374
14. III	292.8	36.9	15														1000	395	146	<u>865</u>	<u>-577</u>	<u>-674</u>	-134	-228	334	142	148	077	-043	076	194	<u>475</u>	309	199	-208	-047	060	-064	019	129	289	150	016	-032	027	225	191
15. IV	294.2	27.4	15															1000	-074	399	127	-493	-490	-408	-043	571	416	399	-079	-458	-305	-022	-283	-430	-123	-389	167	-457	132	344	342	446	233	-237	-309	030	210
16. V	273.8	39.9	15																1000	<u>459</u>	218	-271	<u>516</u>	-051	-079	004	060	128	431	014	-049	015	176	296	030	046	-013	111	-019	-060	-215	-040	-014	074	265	053	285
17. VI	307.3	20.0	15																	1000	<u>-548</u>	<u>-541</u>	187	-170	486	200	281	160	162	133	-026	<u>505</u>	332	265	031	081	297	-095	269	331	069	301	240	086	247	346	395
Interaction Analysis																																															
18. I/D	3.16	2.94	21																	1000	133	-080	-235	<u>-611</u>	003	039	-154	086	<u>2583</u>	-126	-371	-135	184	-053	-187	-175	208	-098	-095	-159	-052	033	-134	400	-239	-200	
19. I/D	0.86	0.68	21																		1000	135	131	225	-066	042	-194	-184	351	-087	257	126	305	<u>509</u>	<u>405</u>	246	328	337	107	-129	091	240	<u>435</u>	<u>499</u>	257	<u>518</u>	
20. ST/TI	0.69	0.50	21																			1000	<u>612</u>	383	-279	-079	-113	124	100	-030	-108	-007	093	172	250	198	-151	139	131	<u>-516</u>	058	188	-030	079	-120	-117	
21. SII/Tot	0.13	0.13	21																				1000	<u>455</u>	<u>-491</u>	<u>-405</u>	-385	-156	259	-102	038	-212	-306	-173	-141	017	-280	-088	-051	<u>-399</u>	-113	-043	-313	-357	-251	-160	
22. Lec/Tot	0.45	0.24	21																					1000	113	118	147	-375	<u>508</u>	-128	387	-100	-263	178	104	308	-324	280	321	092	242	234	068	-096	201	278	
Classroom Observation Record																																															
23. 1	5.3	1.4	21																							1000	<u>902</u>	<u>842</u>	<u>428</u>	046	021	190	154	-043	<u>568</u>	315	<u>496</u>	-161	<u>436</u>	<u>631</u>	<u>534</u>	<u>567</u>	<u>489</u>	<u>328</u>	163	<u>537</u>	278
24. 2	5.1	1.2	21																								1000	<u>745</u>	<u>368</u>	111	-054	309	<u>379</u>	208	<u>609</u>	<u>467</u>	<u>640</u>	-013	<u>553</u>	<u>755</u>	<u>532</u>	<u>667</u>	<u>596</u>	<u>448</u>	374	<u>566</u>	329
25. 3	4.9	1.2	21																									1000	<u>646</u>	074	199	073	065	-133	<u>400</u>	241	275	223	208	326	341	279	228	232	111	<u>356</u>	180
26. 4	4.4	1.5	21																										1000	071	122	072	357	289	219	205	013	012	-075	012	072	-043	-080	213	346	246	262
27. 5	6.3	0.8	21																											1000	156	<u>641</u>	<u>581</u>	342	<u>384</u>	<u>408</u>	293	330	200	053	<u>415</u>	065	-043	<u>599</u>	<u>361</u>	<u>512</u>	<u>587</u>
28. 6	5.1	1.7	21																												1000	337	306	196	183	332	-194	021	-297	-215	118	-219	-338	119	133	087	262
29. 7	5.5	1.1	21																													1000	<u>716</u>	<u>522</u>	<u>383</u>	309	<u>332</u>	293	260	289	<u>487</u>	204	165	<u>459</u>	<u>492</u>	<u>659</u>	<u>730</u>
30. 8	5.6	1.3	21																														1000	<u>872</u>	<u>446</u>	<u>552</u>	319	<u>515</u>	208	162							

The mean quality point average in the major teaching field of the graduates was 3.39 (SD=0.48). This value approximated the mean major field quality point average of graduates who had participated in the first three years of the study. The mean overall undergraduate quality point average of the graduates was 3.14 (SD=0.48), which also approximated that for participants in the first three years of the study. The major field quality point average correlated significantly with the indirect/direct teaching ratio found with the interaction analysis phase of the study. Thus, it appeared that students with higher quality point averages in their teaching field tended toward the use of more indirect teaching techniques. Significant negative relationships were noted between the major field quality point average and certain factors from the Classroom Observation Record.

All 21 subjects had completed the American College Test prior to admission to the University. Mean scores for each of the four sub-tests and composite score are shown in Table 7. In general, the subjects had achieved scores above the mean for all students enrolled in teacher education programs and the University. Significant correlations were noted between overall ACT scores and the overall quality point average achieved by the subjects and factors from the Classroom Observation Record.

Mean scores and standard deviations achieved by the 21 subjects on the National Teacher Examinations are shown in Table 8. The results indicated that the subjects had achieved at a slightly higher level than individuals in the first three years of the study. Overall the subjects ranked at about the 40th percentile on the Professional Education Test, about the 45th percentile on the Teaching Area Examination and the mean composite score was about the 50th percentile. An examination of the correlational pattern of scores from the NTE with selected variables (Table 5) revealed few significant relationships.

General Information-Teacher Preparation Inventory

All subjects were asked to complete a rating sheet with regard to certain courses and other areas of emphasis related to their teacher education program. Data were obtained from all 21 subjects and are comparable with information from other studies of larger numbers of graduates (see Appendix for complete listing of reports). Table 9 shows the results of the survey conducted as a part of this study. This Table contains the percentage of subjects ratings of each area. In general, the lowest ratings were given to the areas of (1) ability to work with parents, (2) skill in maintaining discipline, and (3) skill in working with exceptional children (the bright, the dull, and the handicapped). It should be noted that these areas have been rated as weaknesses in other studies conducted by the University. Also, these appear frequently in studies that have been conducted at other institutions of higher education.

The subjects were asked to rate the value of certain core education courses on a scale of 5 to 1 (very satisfactory to very unsatisfactory). Table 10 shows the results of this phase of the study. The courses receiving the lowest ratings were General Psychology, Social Foundations of Education, Educational Psychology, and History and Philosophy of Education. In general, the subjects perceived more value in the courses involving practical

Table 6

Teaching Level of B.S. Subjects (N=21)

Level	No.	Percent
Preschool (including kindergarten)	1	4.7
Grades 1-3	6	28.6
Non-graded lower grades	2	9.5
Grades 4-7	4	19.0
Non-graded middle school	2	9.5
Grades 8-12	3	14.3
Special Education	3	14.3

Table 7

American College Test Scores for B.S. Graduates (N=21)

Subtest	Mean	SD
English	19.9	3.4
Mathematics	17.4	6.2
Social Science	19.3	5.6
Natural Science	20.9	3.4
Composite	19.6	3.5

Table 8

National Teacher Examinations Scores for B.S. Graduates (N=21)

Test	Mean	SD
Teaching Area Examinations	632.1	54.5
Professional Education Test	65.5	31.4
Composite Scores	1228.8	97.3

Table 9

Percentage Ratings of Selected Items Related to Undergraduate Teacher Preparation Program (N=20)*

Item	1 Very Unsatisfactory	2 Somewhat Unsatisfactory	3 Neither satis- factory nor Unsatisfactory	4 Somewhat Satisfactory	5 Very Satisfactory	\bar{X}	SD
1. Your teaching personality							
a. Ability to work with children	0.0	5.0	10.0	40.0	45.0	4.3	0.9
b. Ability to work with colleagues	0.0	0.0	15.0	25.0	60.0	4.5	0.8
c. Ability to work with parents	0.0	15.0	20.0	35.0	30.0	3.8	1.1
2. Your general knowledge and understanding of							
a. Sciences and Mathematics	0.0	15.0	15.0	50.0	20.0	3.5	1.0
b. Humanities	0.0	5.0	15.0	55.0	25.0	4.0	0.8
c. Social Sciences	0.0	0.0	10.0	45.0	45.0	4.3	0.7
3. Your ability to use the English language effectively	0.0	10.0	10.0	40.0	45.0	4.3	0.9
4. Your knowledge and understanding of the subjects which you teach	0.0	20.0	5.0	60.0	35.0	4.3	0.6
5. Your understanding of children and youth							
a. Insight into causes of behavior	0.0	15.0	10.0	55.0	25.0	4.0	0.9
b. Skill in working with exceptional children (the bright, the dull, the handicapped)	5.0	5.0	20.0	40.0	15.0	3.4	1.1
c. Skill in maintaining discipline	5.0	0.0	65.0	15.0	20.0	3.7	1.1
6. Your understanding of the nature of the learning process	0.0	0.0	20.0	50.0	20.0	3.9	0.8
7. Your knowledge of sources of teaching materials	0.0	0.0	15.0	45.0	35.0	4.2	0.7
8. Your ability to use teaching materials effectively	0.0	0.0	15.0	50.0	35.0	4.2	0.7
9. Your knowledge and understanding of							
a. The purposes of the school in relation to the over-all purpose of society	0.0	0.0	15.0	40.0	40.0	4.3	0.7
b. The social structure of the community and its meaning for education	0.0	0.0	20.0	55.0	20.0	4.0	0.7

*Percentages may not add to 100 because of missing data.

Table 10

Percentage Ratings of Selected Courses
In Undergraduate Program (N=20)

Item	1 Very Unsatisfactory	2 Somewhat Unsatisfactory	3 Neither Satisfactory nor Unsatisfactory	4 Somewhat Satisfactory	5 Very Satisfactory	6 Did Not Take At TTU	\bar{X}	SD
a. INTRODUCTION TO TEACHING	0.0	25.0	10.0	5.0	30.0	30.0	3.6	1.4
b. GENERAL PSYCHOLOGY	5.0	0.0	10.0	40.0	30.0	15.0	3.1	1.0
c. HUMAN GROWTH AND DEVELOPMENT	5.0	10.0	10.0	30.0	25.0	20.0	3.8	1.2
d. EDUCATIONAL PSYCHOLOGY	15.0	5.0	25.0	25.0	15.0	15.0	3.2	1.5
e. SOCIAL FOUNDATIONS OF EDUCATION	20.0	10.0	35.0	25.0	5.0	5.0	2.8	1.2
f. HISTORY AND PHILOSOPHY OF EDUCATION	5.0	20.0	10.0	30.0	15.0	20.0	3.4	1.3
g. EVALUATION AND GUIDANCE	10.0	10.0	5.0	40.0	30.0	5.0	3.7	1.3
h. METHODS COURSES	15.0	10.0	5.0	25.0	40.0	5.0	3.7	1.6
i. MICRO TEACHING	15.0	10.0	5.0	20.0	25.0	25.0	3.4	1.6
j. STUDENT TEACHING	10.0	0.0	0.0	0.0	80.0	10.0	4.6	1.3

applications and less value in the theoretical courses. These findings have been in evidence in other studies (see Appendix).

The subjects were asked to rate the quality of instruction in the College of Education. Over 70 percent rated the instruction as satisfactory to very satisfactory. However, on the negative side over 15 percent rated the instruction as being unsatisfactory.

Principal Evaluations of Subjects

The principal of each subject was asked to complete two instruments designed to evaluate weaknesses and strengths of the individual. The first instrument consisted of 59 items related to the teacher education program of the subjects and has been used for the past seven years in the evaluative efforts of the Office of the Associate Dean. Table 11 shows the mean ratings for each item. No area was rated significantly low by the principals. However, principals appeared to perceive a problem with those areas marked with an asterisk (*).

Principals were also asked to complete the Teacher Evaluation by Supervisor form. This instrument consists of four questions encompassing the following areas: (a) subject matter competence, (b) relations with students, (c) appropriateness of assignments, and (d) overall effectiveness. Table 12 shows the mean ratings for each of these items for the B.S. level 1976 graduates. An examination of the correlational pattern for the four variables with the other factors studied indicated results similar to those obtained in the past years of the study.

Table 11

Means and Standard Deviations of Ratings of
Selected Items by Principals (N=21)

Items	\bar{X}	SD
Understanding the goals of the school	4.6	0.5
Personal Appearance	4.7	0.5
Enthusiasm for the teaching profession	4.8	0.4
Adaptability in the classroom	4.6	0.5
Cooperation and dependability	4.8	0.4
Attitudes toward children	4.9	0.4
Attitudes toward fellow teachers	4.9	0.3
Attitudes toward supervisors	4.7	0.5
Accuracy in maintaining official records and reports	4.7	0.6
Understanding and using courses of study and curriculum guides	4.6	0.5
*Making effective use of community resources	4.2	0.8
Handling disciplinary problems	4.4	0.6
*Getting acquainted with the community and its people	4.4	0.7
Keeping abreast of recent professional developments	4.5	0.6
Evaluating pupil progress	4.7	0.5
*Motivating pupils who seem disinterested	4.4	0.6
Relationships with parents	4.6	0.5
Participation in professional activities	4.7	0.5
Potential for advancement in the profession	4.7	0.5
Relationships with fellow teachers	4.8	0.5
Overall effectiveness of this person in comparison with other teachers in your school	4.6	0.6
Overall qualifications of this person to teach in your particular school situation	4.7	0.5
1. Teaching, personality:		
a. Ability to work with children	4.7	0.5
b. Ability to work with colleagues	4.8	0.6
c. Ability to work with members of the community	4.7	0.5
d. Ability to maintain a friendly discussion	4.7	0.5
e. Ability to lead a well-rounded life, to enjoy work and play	4.9	0.3
f. Ability to work with parents	4.6	0.5

Table 11 (continued)

2. General knowledge and understanding of:		
a. The physical sciences	4.6	0.5
b. The biological sciences	4.6	0.5
c. American culture and institutions	4.6	0.5
d. Art, music, literature, philosophy	4.7	0.5
e. Mathematics	4.7	0.5
3. Ability to use the English language effectively	4.7	0.5
4. Knowledge and understanding of the subject taught	4.8	0.4
5. Understanding of children and youth:		
a. Insight into causes of behavior	4.5	0.6
b. Skill in working with exceptional children (the bright, the dull, the handicapped)	4.6	0.5
c. Skill in group work	4.7	0.5
*d. Skill in maintaining discipline	4.3	0.8
e. Skill in guidance of children	4.6	0.5
6. Understanding of the nature of the learning process		
a. Skill in helping students determine objectives	4.6	0.5
b. Skill in motivating students	4.7	0.5
*c. Skill in pupil-teacher planning	4.4	0.8
d. Skill in using a variety of teaching methods	4.5	0.7
e. Skill in evaluating pupil growth and class procedures with pupils	4.5	0.6
f. Ability to construct appropriate tests and learning materials	4.5	0.6
g. Skill in the application of learning theory	4.6	0.5
h. Skill in providing differentiated learning experiences for various groups and individuals	4.5	0.5
7. Knowledge of sources of teaching materials		
a. Printed materials	4.6	0.6
b. Audio-visual materials	4.6	0.7
c. Community resources	4.3	0.7
d. Library and library materials	4.5	0.7
8. Ability to use teaching materials effectively	4.7	0.6
9. Knowledge and understanding of:		
a. The purposes of the school in relation to the overall purpose of society	4.6	0.5
b. The social structure of the community and its meaning for education	4.6	0.6
c. The institutions of the community	4.6	0.6
d. The different value-patterns of social-economic classes	4.6	0.6
e. The economic life of the community	4.7	0.7
f. Appropriate ethical behavior of the teacher	4.8	0.5

* Areas of concern to principals.

Table 12

Means and Standard Deviations of Principals' Ratings of 1976 B.S. Graduates on Four Dimensions of Teaching (N=21)*

Dimensions	\bar{X}	SD
Subject Matter Competence	4.3	0.6
Relations With Students	4.4	0.7
Appropriateness of Assignments	4.4	0.7
Overall Effectiveness	4.4	0.7

*Ratings are on a 1-5 scale with 5 being the highest score.

Personality Scale

The California F-Scale Forms 45 and 40 was used to assess one aspect of the personality of the subjects. The F-Scale range of possible values is 28 to 196 with 112 the mid-point. The lower the value, the more non-authoritarian the indication. A total of 20 B.S. level 1976 graduates completed the instrument with a mean score of 97.1 and a standard deviation of 15.9. This indicated that the subjects in the study tended toward being non-authoritarian. Scores ranged from 75 to 129. In comparison, subjects from the first three years of the study achieved mean scores respectively of 112, 104, and 101. Thus, the group in the fourth year of the study tended toward being more non-authoritarian than the previous two groups. As in the past three years of the study, there appeared to be little relationship between the level of authoritarianism exhibited by the subjects and other factors in the study. There were significant positive correlations between the F-Scale scores and COR ratings on items 10, 11, and 15. Teachers with higher F-Scale scores tended toward being more stimulating, original and steady than low scorers on the F-Scale.

Student Evaluation of Teaching

Two forms of the Student Evaluation of Teaching were employed in the study. The SET-I was used with children in the classes of subjects above the third grade, while the SET-II was used with children below the fourth grade level. The instruments measure similar traits.

Table 13 shows the mean and standard deviation of the scores for each of the five factors and the composite score for the SET-I for the 15 B.S., 1976 graduates teaching above the third grade. The maximum possible score for any factor of the composite score is 400. Highest ratings were received on the factors of Friendly and Cheerful and Knowledgeable and

Poised. This is in agreement with the results of the past three years of the study.

Table 14 shows the results of the administration of the SET-II in the classrooms of the 9 individuals teaching below the fourth grade. Mean scores on each of the five factors are similar to the results reported in the second and third years of the study.

An examination of the correlational pattern of the SET-I with scores from other factors in the study approached those of first year subjects in the past three years of the study (1973-75). No attempt was made to study the correlational pattern of the SET-II.

Interaction Analysis

A ten category interaction analysis system was utilized to record observed classroom behavior of the subjects. The system proposed by Amidon and Flanders was implemented with the aid of three specially trained graduate assistants. A set of three to four observations was made on each subject. Each set contained from two to eight 20-minute periods of observation.

Table 15 shows a summary of the means and standard deviations of the various ratios for the observations. The data are comparable with that gathered during the previous three years of the study.

The I/D ratio in Table 15 is above the .50 average for teachers reported in earlier studies. More indirect teaching has been associated in some studies with higher student achievement and positive attitude formation. The i/d ratio of 3.16 is also higher than the ratio of less than 1.00 reported for the average teacher. The subjects in this study used more acceptance of feeling, praising, or encouraging than average teachers. Other ratios in Table 15 are similar to the ratios of teachers reported in other studies.

Table 16 shows a summary of the average percentage of time spent by the B.S., 1976 graduates at various grade levels acting in each of the ten interaction categories. In general, the amount of direct influence increases from the lower grades through the upper grades of the secondary school. The amount of time spent in lecture increased almost 50 percent from the lower grades through the upper levels of the high school.

Correlations of Interaction Analysis scores from subjects (see Table 5) indicated several minor correlations with scores from the COR similar to the results obtained in past studies. A significant negative correlation was noted between the i/d ratio and the Dull-Stimulating, Inflexible-Adaptable, Pessimistic-Optimistic, and Narrow-Broad factors from the COR. A significant negative correlation was noted between the Sil-Tot ratio and the Excitable-Poised factor from the COR.

Classroom Observation Record

The Classroom Observation Record was completed on each subject by the observers at the conclusion of each visit. Items 1 through 4 of the

Table 13

Student Evaluation of Teaching-I, 1976 B.S. Graduates (N=15)

Factor	Mean	SD
Friendly and Cheerful	344.7	32.3
Knowledgeable and Poised	331.8	35.2
Lively and Interesting	292.2	36.9
Firm Control (Discipline)	294.2	27.4
Non-Directive (Democratic Procedure)	273.8	39.9
Composite Score	307.3	20.0

Table 14

Student Evaluation of Teaching-II (Grades K-3)
1976 B.S. Graduates (N=9)

Factor	Mean	SD
Rapport	5.6	0.4
Interactional Competence	4.5	0.4
Stimulating, Interaction Style (Combination of Rapport and Interactional Competence)	10.1	0.8
Unreasonable Negativity	8.8	0.6
Fostering of Self-Esteem	6.7	0.5

Table 15

Means and Standard Deviations for Interaction Analysis
 1976 B.S. Graduates (N=21)

Ratio	Mean	SD
Indirect/Direct Teaching (I/D)	0.86	0.68
Indirect/Direct Teaching (i/d)	3.16	2.94
Student Talk/Teacher Talk (ST/TT)	0.69	0.50
Silence/Total Teaching (Sil/Tot)	0.13	0.13
Lecture/Total Teaching (Lec/Tot)	0.45	0.24

Table 16

Average Percentage of Time Spent by 1976 B.S. Graduate (N=21) by
 Grade Levels Acting in Each of the Ten Interaction Categories*

Grade Level	1	2	3	4	5	6	7	8	9	10
Grades K-3 (N=8)	0.0	7.9	10.7	10.2	23.2	4.4	1.9	19.3	12.2	10.3
Grades 4-6 (N=6)	0.0	9.0	7.4	10.2	20.8	6.6	2.0	17.3	11.7	15.0
Grades 7-9 (N=1)	0.0	3.8	4.8	8.1	43.5	3.0	1.0	15.9	10.3	9.6
Grades 10-12 (N=4)	0.0	2.2	1.5	4.2	30.9	0.9	1.4	18.5	16.0	24.4
All Grades (N=19)	0.0	6.8	7.4	8.8	25.1	4.3	1.8	18.3	12.7	14.7

*Categories 1-4, Indirect Influence of Teacher; 1=Accepts Feelings, 2=Praises or Encourages, 3=Accepts or Uses Ideas of Students, 4=Asks Questions.

Categories 5-7, Direct Influence of Teacher; 5=Lecturing, 6=Giving Directions, 7=Criticizing or Justifying Authority.

Categories 8-9, Student Talk; 8=Student Talk-Response, 9=Student Talk-Initiation.

Category 10, Silence or Confusion.

instrument assess four dimensions of pupil behavior, and the remaining 18 items assess dimensions of teacher behavior. Table 17 contains a summary of the means and standard deviations for each of the 22 items of the instrument for the B.S. 1976 graduates. The lowest mean score on the Pupil behavior dimension was item 4 (Depending-Initiating). Lowest mean scores for the Teacher Behavior section were items 11 (Stereotyped-Original), 10 (Dull-Stimulating), 22 (Narrow-Broad), and 6 (Autocratic-Democratic). It should be noted that several of these items have been found to be low in the past years of study.

Table 17

Means and Standard Deviations for Each Dimension of the Classroom Observation Record, 1976 B.S. Graduates (N=21)

Dimension	Mean	SD
<u>Pupil Behavior</u>		
1. Apathetic-Alert	5.3	1.4
2. Obstructive-Responsive	5.1	1.2
3. Uncertain-Confident	4.9	1.2
4. Depending-Initiating	4.4	1.5
<u>Teacher Behavior</u>		
5. Partial-Fair	6.3	0.8
6. Autocratic-Democratic	5.1	1.7
7. Aloof-Responsive	5.5	1.1
8. Restricted-Understanding	5.6	1.3
9. Harsh-Kindly	5.5	1.5
10. Dull-Stimulating	5.2	1.4
11. Stereotyped-Original	4.9	1.6
12. Apathetic-Alert	5.7	1.4
13. Unimpressive-Attractive	6.7	0.5
14. Evading-Responsible	5.8	1.5
15. Erratic-Steady	5.8	1.2
16. Excitable-Poised	6.2	1.1
17. Uncertain-Confident	6.0	1.1
18. Disorganized-Systematic	5.8	1.3
19. Inflexible-Adaptable	5.4	1.3
20. Pessimistic-Optimistic	5.5	1.4
21. Immature-Integrated	5.5	1.0
22. Narrow-Broad	5.1	1.4

Tuckman Teacher Feedback Form

The Tuckman Teacher Feedback Form (TTFF) was introduced during the 1976-77 phase of the study to add another dimension of observation. Results for the 21 B.S. level graduates that were observed are presented in

Table 18. Based on the results, it appeared that the graduates were somewhat below the mid-point in the areas of creativity and dynamism and above the mid-point in the areas of warmth and acceptance and organized demeanor. An examination of the correlation pattern of the scores with data from such instruments as the COR were as would be expected, i.e., there were high correlations between the factors from the TTFF and the appropriate dimensions of the COR.

Table 18

Means, Standard Deviations and Range for Four Dimensions of the Tuckman Teacher Feedback Form, 1976 B.S. Graduates (N=21)

Dimension	Mean	SD	Range*
I. Creativity	26.3	8.0	13-43
II. Dynamism (Dominance and Energy)	26.3	7.6	6-42
III. Organized Demeanor (Organization and Control)	33.6	6.6	16-48
IV. Warmth and Acceptance	32.0	7.5	12-43

* Possible range 19-43 with 31 being the mid-point. Scores above the mid-point tend toward the dimension.

Summary

In summary, this chapter has presented an overview of the results of the fourth year of the application of the Tennessee Technological University Teacher Evaluation Model to a new group of (1976) B.S. level graduates. The career base line data gathered on the subjects in this study was comparable to that from other studies. The ratings of the teacher preparation program again were comparable with those obtained during the past several years. In general, principals rated the subjects quite highly in such areas as ability to work with fellow teachers, ethical behavior, and knowledge of the subject matter taught. Ratings by principals were higher for 1976 graduates than for previous groups. Based on measures obtained with the California F-Scale, the subjects tended to be somewhat non-authoritarian in their beliefs. Employing interaction analysis and classroom observation scales revealed that the subjects were using more indirect than direct teaching methods and were exhibiting many of the characteristics of good teachers as reported in the literature. The results are similar to past results; however, significant differences were noted in the correlational patterns of the scores.

CHAPTER III

PRESENTATION AND ANALYSES OF 1976 DATA FOR 1973 THROUGH 1975 B.S. SUBJECTS AND COMPARISONS WITH DATA COLLECTED ABOUT 1976 SUBJECTS

During the course of operation of the Tennessee Technological University Teacher Evaluation Model, data have been collected about a number of variables. The purpose of this chapter is to present a brief summary of some of the essential data collected about graduates who entered the study in 1973, 1974 or 1975 and to make comparisons across two, three and four years. It should be noted that there are many other data analyses that will be performed in the future. The comparisons presented in this chapter are what were felt to be essential in making decisions with regard to continuation and modification of the basic teacher evaluation model.

This chapter is divided into three major sections as follows: correlational data, study of first year (1973) subjects across four years, second year (1974) subjects across three years, and third year (1975) subjects across two years; and comparisons of data about all first year subjects (1973, 1974, 1975, and 1976), three groups during their second year in the study, and two groups during their third year in the study. The analyses that have been performed are only representative of the type information that is available or that can be obtained.

Comparison of Correlational Data

The study of correlational data has been an essential factor in all four years of the study. In each year of the study, intercorrelations have been computed for a number of variables on each first year group of subjects (for example, see Table 5 of this report). As a continuation of the correlational studies, all data from first year subjects were combined and correlations of selected variables were computed. Table 19 shows the results of this effort. Also included in the table are means, standard deviations, and sample sizes for each of the 23 variables studied. In general, the correlational pattern was similar to that reported in past studies. It will be noted that data from the Classroom Observation Record have been omitted to conserve space.

Comparison Study of Subjects Who Have Been in Study Four, Three and Two Years

This section presents a summary of a comparison of the information collected on those subjects who initially entered the study in 1973 and have remained in the project for three years. Comparison data are presented for four primary instruments used in the study. The principal statistical tool used to determine significant differences was the analysis of variance technique. In 1973 a total of 53 subjects entered the program. This number has been reduced by attrition to 32 in 1974, 26 in 1975, and 16 in 1976.

Principals' ratings

Table 20 shows a comparison of the means and standard deviations for

TABLE 19

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CORRELATION MATRIX FOR SELECTED VARIABLES ON ALL DATA COLLECTED 1973-1976*

	<u>X</u>	<u>SD</u>	<u>N</u>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1. Composite NTE	1171.9	131.5	143	1000	<u>.506</u> (143)	-.004 (121)	-.091 (122)	.070 (120)	.107 (117)	-.400 (115)	.154 (71)	.012 (71)	.030 (71)	-.206 (71)	.195 (71)	.085 (71)	.076 (43)	.102 (43)	.202 (43)	<u>.306</u> (43)	.050 (43)	-.104 (80)	-.082 (80)	-.054 (80)	.105 (80)	.040 (80)	
2. Overall QPA	3.11	0.55	171		1000	<u>.186</u> (147)	.030 (148)	<u>.140</u> (146)	<u>.144</u> (102)	-.179 (138)	.023 (87)	.052 (87)	-.081 (87)	-.075 (87)	.065 (87)	-.042 (87)	-.179 (51)	-.056 (51)	.138 (51)	-.074 (51)	-.073 (50)	-.189 (101)	.082 (101)	-.061 (101)	-.025 (101)	.112 (101)	
<u>Principal Evaluation</u>																											
3. I	4.2	0.7	253			1000	<u>.631</u> (253)	<u>.726</u> (250)	<u>.717</u> (241)	-.281 (124)	<u>.147</u> (132)	-.229 (132)	<u>.303</u> (132)	-.024 (132)	-.050 (132)	<u>.207</u> (132)	-.182 (81)	.090 (81)	.091 (81)	-.174 (81)	-.150 (80)	-.054 (177)	.018 (174)	-.147 (177)	-.082 (177)	-.064 (176)	
4. II	4.3	0.8	254				1000	<u>.626</u> (251)	<u>.667</u> (242)	-.116 (125)	<u>.262</u> (133)	<u>.232</u> (133)	<u>.347</u> (133)	.019 (133)	.137 (133)	<u>.273</u> (133)	-.225 (81)	.009 (81)	.053 (81)	-.266 (81)	-.146 (80)	.053 (177)	-.060 (174)	-.055 (177)	-.128 (177)	-.012 (176)	
5. III	4.2	0.7	251					1000	<u>.769</u> (240)	-.248 (125)	.022 (130)	<u>.225</u> (130)	<u>.164</u> (130)	-.005 (130)	.024 (130)	.108 (130)	-.192 (81)	-.042 (81)	.086 (81)	-.181 (81)	-.143 (80)	-.052 (176)	.056 (173)	-.144 (176)	-.011 (176)	-.074 (175)	
6. IV	4.2	0.7	242						1000	-.295 (121)	.056 (129)	<u>.184</u> (129)	<u>.211</u> (129)	.046 (129)	-.070 (129)	.131 (129)	-.229 (74)	-.079 (74)	.097 (74)	-.143 (74)	-.074 (73)	-.050 (166)	-.000 (163)	-.169 (166)	-.125 (166)	-.068 (165)	
7. California F-Scale	100.1	22.0	150							1000	-.096 (78)	-.003 (78)	-.103 (78)	-.010 (78)	-.094 (78)	-.091 (78)	.041 (43)	.092 (43)	-.125 (43)	-.300 (43)	-.080 (43)	.065 (92)	.084 (92)	.071 (92)	.040 (92)	.020 (92)	
<u>Student Evaluation of Teaching - I</u>																											
8. I	338.9	58.6	156							1000	<u>.612</u> (156)	<u>.734</u> (156)	<u>.284</u> (156)	<u>.555</u> (156)	<u>.880</u> (155)	-	-	-	-	-	-	.041 (112)	-.175 (110)	.006 (112)	.012 (112)	.026 (111)	
9. II	346.2	45.6	156								1000	<u>.651</u> (156)	<u>.341</u> (156)	<u>.376</u> (156)	<u>.774</u> (155)	-	-	-	-	-	-	-.104 (112)	-.017 (110)	-.033 (112)	.004 (112)	.154 (111)	
10. III	300.9	62.1	156									1000	<u>.240</u> (156)	<u>.561</u> (156)	<u>.847</u> (155)	-	-	-	-	-	-	-.009 (112)	.001 (110)	-.142 (112)	.044 (112)	.108 (111)	
11. IV	304.2	42.0	156										1000	<u>.119</u> (156)	<u>.479</u> (155)	-	-	-	-	-	-	.052 (112)	-.154 (110)	.093 (112)	-.011 (112)	-.125 (111)	
12. V	259.0	52.0	156											1000	<u>.668</u> (155)	-	-	-	-	-	-	.077 (112)	.065 (110)	.082 (112)	.036 (112)	-.015 (111)	
13. VI	309.4	41.0	155												1000	-	-	-	-	-	-	.030 (112)	-.148 (110)	.003 (112)	.031 (112)	.026 (111)	
<u>Student Evaluation of Teaching - II</u>																											
14. Rapport	5.5	1.0	*95													1000	<u>.202</u> (95)	<u>.280</u> (95)	<u>.400</u> (95)	<u>.630</u> (94)	-.151 (85)	-.139 (85)	-.116 (85)	.170 (85)	-.094 (85)		
15. Competence	4.7	1.5	95														1000	<u>.069</u> (95)	<u>.197</u> (95)	<u>.345</u> (94)	-.090 (85)	-.045 (85)	-.040 (85)	-.054 (85)	.007 (85)		
16. Style	10.6	6.4	95															1000	<u>.092</u> (95)	<u>.260</u> (94)	-.069 (85)	-.078 (85)	-.038 (85)	.019 (85)	-.010 (85)		
17. Negativity	8.3	1.7	95																1000	<u>.474</u> (94)	.087 (85)	.039 (85)	.076 (85)	.034 (85)	.075 (85)		
18. Self-esteem	6.7	1.3	*94																	1000	-.144 (84)	-.305 (84)	-.173 (84)	.015 (84)	-.214 (84)		
<u>Interaction Analysis</u>																											
19. I/d	3.34	.91	204																			1000	<u>.209</u> (204)	.022 (204)	.061 (204)	<u>.261</u> (203)	
20. I/D	.79	.90	207																				1000	<u>.629</u> (207)	.046 (207)	<u>.533</u> (206)	
21. ST/TT	.71	1.39	207																					1000	.072 (207)	<u>.523</u> (206)	
22. Sil/Tot	.42	.70	207																						1000	<u>.166</u> (206)	
23. Lec/Tot	.53	.46	206																							1000	

*Underline indicates a correlation significant at or beyond the .05 level.
 Decimal points have been omitted.
 Numbers in () indicate the N for the correlation.

the principals' ratings of the subjects across the four year period. Use of the analysis of variance technique indicated there were no significant differences in the ratings given by the principals on each of the four factors of the instrument across the three year period. The ANOVA table has been omitted. In general, the subjects received ratings in excess of 4 on a scale of 5 to 1, with 5 being the highest possible score.

Table 20

COMPARISON OF PRINCIPALS' RATINGS ACROSS THREE YEARS (1973-1976) FOR SUBJECTS IN STUDY FOR TOTAL PERIOD.

Factor	GRP 1973 (N=46)		GRP 1974 (N=25)		GRP 1975 (N=20)		GRP 1976 (N=16)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
I	4.09	0.73	4.08	0.76	4.15	0.75	4.20	0.45
II	4.11	0.85	4.08	0.95	4.15	0.88	4.40	0.55
III	4.18	0.72	3.92	0.70	4.35	0.75	4.40	0.55
IV	4.09	0.70	4.08	0.81	4.10	0.79	4.20	0.45

Tables 21 and 22 show comparisons of the means and standard deviations for the principals' ratings of the subjects who entered the study in 1974 across a three year period and those who entered the study in 1975 across a two year period. Again, application of ANOVA indicated that there were no significant differences in ratings.

Table 21

COMPARISON OF PRINCIPALS' RATINGS ACROSS THREE YEARS (1974-1976) FOR B.S. SUBJECTS WHO ENTERED STUDY IN 1974

Factor	GRP 1974 (N=29)		GRP 1975 (N=26)		GRP 1976 (N=19)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
I	4.0	0.8	4.2	0.7	4.4	0.6
II	4.2	0.9	4.1	0.8	4.4	0.7
III	4.1	0.7	4.1	0.7	4.3	0.7
IV	4.2	0.8	4.2	0.7	4.2	0.7

Table 22

COMPARISON OF PRINCIPALS' RATINGS ACROSS TWO YEARS (1975-1976)
FOR B.S. SUBJECTS WHO ENTERED STUDY IN 1975

Factor	GRP 1975 (N=30)		GRP 1976 (N=17)	
	\bar{X}	SD	\bar{X}	SD
I	4.2	0.7	4.2	0.9
II	4.5	0.7	4.5	0.7
III	4.3	0.7	4.2	0.8
IV	4.3	0.7	4.2	0.8

Student Evaluation of Teaching

Table 23 shows a comparison of the means and standard deviations for each of the five factors and the total score (VI) for the Student Evaluation of Teaching for the four year period 1973 through 1976 (for subjects who entered the study in 1973). Application of the analysis of variance technique indicated there were no significant differences in the ratings of the subjects by their students across the four year period. Similar results were obtained for subjects who entered the study in 1974 and 1975 across two or three year periods (Tables 24 and 25).

Table 23

COMPARISON OF SET-I SCORES ACROSS FOUR YEARS (1973-1976)
FOR SUBJECTS IN STUDY FOR TOTAL PERIOD

Factor	GRP 1973 (N=35)		GRP 1974 (N=26)		GRP 1975 (N=14)		GRP 1976 (N=4)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
I	334.0	51.1	341.3	40.8	338.4	44.4	331.0	15.1
II	342.9	53.7	347.6	31.1	355.0	25.5	341.0	27.1
III	304.8	61.1	297.3	52.7	298.0	56.5	281.5	29.2
IV	308.3	37.5	303.2	38.7	300.2	32.2	267.0	14.1
V	250.2	48.3	260.0	52.5	275.9	36.8	246.5	31.8
TOTAL-VI	309.1	32.0	313.8	31.2	311.5	27.6	293.5	23.5

Table 24

COMPARISON OF SET-I SCORES ACROSS TWO YEARS (1975-1976) FOR
B.S. SUBJECTS WHO ENTERED STUDY IN 1975

Factor	GRP 1975 (N=19)		GRP 1976 (N=7)	
	\bar{X}	SD	\bar{X}	SD
I	347.6	32.8	350.7	29.2
II	347.3	24.3	338.7	31.0
III	303.5	38.7	303.3	50.1
IV	304.8	38.5	286.4	26.7
V	247.5	48.6	279.4	49.5
VI-Total	310.1	25.7	311.6	30.9

Table 25

COMPARISON OF SET-I SCORES ACROSS THREE YEARS (1974-1976)
FOR B.S. SUBJECTS WHO ENTERED STUDY IN 1974

Factor	GRP 1974 (N=21)		GRP 1975 (N=14)		GRP 1976 (N=11)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
I	310.7	43.5	336.6	31.2	327.2	39.3
II	314.5	70.1	356.8	18.4	344.1	21.9
III	306.5	36.4	298.4	35.6	289.9	60.0
IV	299.5	48.6	310.1	32.2	295.2	63.5
V	242.2	36.7	267.4	41.2	236.2	43.3
VI-TOTAL	295.9	48.5	313.8	19.4	298.5	32.8

Interaction Analysis

Table 25A shows the means and standard deviations across four years from the results of the application of the interaction analysis technique. In general, the indirect to direct ratio of teaching has increased each year of the study, whereas the other variables have remained nearly constant.

Application of the ANOVA indicated that no significant differences existed among the variables across the four years of the study. Similar findings were noted for subjects in the study for three and two years respectively (Tables 26 and 27).

Table 25A

COMPARISON OF RATIOS FROM INTERACTION ANALYSIS ACROSS FOUR YEARS
(1973-1976) FOR SUBJECTS IN STUDY FOR TOTAL PERIOD

Ratio	GRP 1973 (N=43)		GRP 1974 (N=26)		GRP 1975 (N=23)		GRP 1976 (N=16)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
i/d	1.62	2.00	1.53	1.07	1.16	1.08	2.73	2.41
I/D	0.78	0.77	0.71	0.32	0.47	0.30	1.15	7.47
ST/TT	0.61	0.59	0.55	0.37	0.39	0.24	0.58	0.36
Sil/Tot	0.45	0.95	0.33	0.35	0.31	0.27	0.32	0.32
Lec/Tot	0.50	0.21	0.44	0.16	0.59	0.16	0.48	0.25

Table 26

COMPARISON OF RATIOS FROM INTERACTION ANALYSIS ACROSS THREE YEARS (1974-1976)
FOR B.S. SUBJECTS WHO ENTERED STUDY IN 1974

Ratio	GRP 1974 (N=31)		GRP 1975 (N=26)		GRP 1976 (N=15)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
i/d	0.66	0.46	0.71	0.49	1.00	0.79
I/D	1.33	1.96	1.93	1.77	2.37	2.13
ST/TT	0.78	1.18	0.80	1.00	0.55	0.27
Sil/Tot	0.51	0.77	0.53	0.43	0.18	0.15
Lec/Tot	0.40	0.18	0.47	0.16	0.47	0.39

Table 27

COMPARISON OF RATIOS FROM INTERACTION ANALYSIS ACROSS TWO YEARS (1975-1976)
FOR B.S. SUBJECTS WHO ENTERED STUDY IN 1975

Ratio	GRP 1975 (N=28)		GRP 1976 (N=14)	
	\bar{X}	SD	\bar{X}	SD
i/d	0.75	0.40	1.67	2.02
I/D	3.69	2.69	2.38	1.48
St/TT	0.52	0.18	0.77	0.43
Sil/Tot	0.39	0.28	0.14	0.19
Lec/Tot	0.52	0.12	0.61	0.89

Classroom Observation Record

Tables 28, 29, and 30 show comparisons of the means and standard deviations from the 22 items of the Classroom Observation Record across four, three and two years respectively. Again, the application of the ANOVA indicated that there were few significant differences across several years.

Comparison Study of all First Year Subjects 1973, 1974, 1975 and 1976 and Selected Comparisons on Second and Third Year Subjects

This section presents a summary of a comparison of the information gathered on all first year B.S. level subjects, i.e., 1973, 1974, 1975 and 1976 graduates. Comparison data are presented from eight sources. The principal statistical tool used to determine significant differences was the analysis of variance technique. The total number of subjects for each year was as follows: 1973, N=49; 1974, N=33; 1975, N=32; and 1976, N=21.

National Teacher Examinations

Table 31 shows the means and standard deviations of scores from the Teaching Area Examination, Professional Education Test and Composite for the National Teacher Examinations for each of the three years. Also shown is the composite score for all years. Application of the analysis of variance technique for the data across the four years indicated there were no significant differences. In general, the subjects achieved scores on the NTE at or slightly below the 50 percentile (National Norms).

Table 28

Comparison of COR Scores Across Four Years (1973-1976)
For Subjects in Study for Total Period

Factor	GRP 1973 (N=46)		GRP 1974 (N=26)		GRP 1975 (N=23)		GRP 1976 (N=16)	
	X	SD	X	SD	X	SD	X	SD
1	6.0	0.9	5.1	1.2	6.0	0.9	5.2	1.6
2	5.8	0.9	5.0	1.1	5.7	0.9	5.2	1.6
3	5.6	1.0	4.9	1.1	5.6	1.3	4.8	1.5
4	5.2	1.2	4.9	1.3	5.5	1.3	5.0	1.1
5	6.1	0.8	5.5	1.1	6.4	0.7	5.7	0.8
6	5.7	1.0	5.2	1.1	5.7	1.3	5.8	1.0
7	6.1	0.9	5.5	1.4	6.1	1.4	5.5	0.8
8	6.2	0.8	5.4	1.2	6.1	1.3	6.2	1.0
9	6.2	0.7	5.8	0.9	6.1	1.2	6.2	0.8
10	5.7	1.0	5.2	1.2	5.8	1.2	5.3	1.4
11	5.4	1.1	5.2	1.1	5.5	1.2	5.0	1.1
12	6.1	0.8	5.5	0.9	6.1	1.0	5.8	0.8
13	6.3	0.8	5.3	0.9	5.9	1.3	6.8	0.4
14	6.3	0.8	5.7	0.9	6.5	0.6	5.8	0.8
15	5.9	1.0	5.3	1.0	6.4	0.8	5.5	1.0
16	6.1	1.0	5.5	0.9	6.5	0.7	5.8	0.8
17	5.8	1.1	5.3	1.0	6.4	0.8	5.8	0.8
18	6.1	1.0	5.5	1.0	6.3	0.8	6.0	0.9
19	5.8	1.1	5.3	1.1	6.0	1.1	5.5	0.6
20	5.8	1.1	5.3	1.1	6.1	1.2	6.3	0.5
21	6.0	0.9	5.4	0.8	6.2	0.7	5.6	0.5
22	5.8	0.8	5.1	1.0	5.8	1.2	5.0	1.0

Table-29

Comparison of COR Scores Across Three Years (1974-1976)
For B.S. Subjects Who Entered Study in 1974

Factor	GRP 1974 (N=31)		GRP 1975 (N=26)		GRP 1976 (N=15)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
1	5.1	1.0	6.1	0.9	5.8	1.0
2	4.9	1.0	5.8	0.6	5.2	1.0
3	4.9	1.2	5.8	0.9	5.3	1.4
4	4.5	1.1	6.0	0.9	4.7	1.8
5	5.4	0.9	6.4	0.6	6.3	0.9
6	5.1	0.9	6.0	1.0	4.6	2.1
7	5.4	1.1	6.2	0.9	5.7	1.4
8	5.5	0.9	6.2	0.7	5.6	1.4
9	5.5	1.0	6.2	0.9	5.4	1.4
10	5.4	1.1	6.2	1.0	5.7	1.2
11	4.9	1.3	5.7	1.1	4.8	1.6
12	5.4	1.0	6.4	0.8	5.8	1.1
13	5.5	0.9	6.2	0.7	6.5	0.5
14	5.9	0.8	6.5	0.7	6.2	0.8
15	5.2	1.2	6.5	0.6	5.8	1.2
16	5.5	1.0	6.5	0.7	5.8	1.2
17	5.0	1.2	6.6	0.6	5.8	1.2
18	5.7	0.8	6.2	0.7	5.7	1.1
19	5.0	1.1	5.9	1.1	5.4	1.1
20	5.1	0.9	6.1	1.0	5.7	1.0
21	5.3	1.0	6.3	0.7	5.7	0.9
22	4.9	0.8	6.0	1.1	5.6	0.8

Table 30

Comparison of COR Scores Across Two Years (1975-1976)
For B.S. Subjects Who Entered Study in 1975

Factor	GRP 1975 (N=28)		GRP 1976 (N=15)	
	X	SD	X	SD
1	6.1	0.8	5.4	1.0
2	5.7	0.8	5.3	1.1
3	5.9	0.8	5.2	1.1
4	5.8	0.8	4.8	1.2
5	6.4	0.5	6.3	0.9
6	6.2	0.8	5.3	1.7
7	6.3	0.7	5.5	1.4
8	6.4	0.6	5.8	1.2
9	6.3	0.8	5.9	1.4
10	5.7	0.8	5.3	1.3
11	5.6	0.8	4.8	1.3
12	6.4	0.6	5.7	1.3
13	6.4	0.7	6.7	0.6
14	6.5	0.8	6.0	1.3
15	6.3	0.8	5.6	1.4
16	6.3	0.7	5.9	1.4
17	6.3	0.7	5.8	1.4
18	6.1	1.0	5.6	1.5
19	5.8	0.8	5.6	1.3
20	6.4	0.7	5.8	1.3
21	6.5	0.7	5.6	1.3
22	5.8	0.8	5.4	1.3

Table 31

COMPARISON OF NATIONAL TEACHER EXAMINATIONS SCORES
FOR FIRST YEAR SUBJECTS 1973-1976 BY YEAR

Test	GRP 1973(N=48)		GRP 1974(N=27)		GRP 1975(N=28)		GRP 1976(N=21)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
Tch. Area Exam.	591.4	66.9	604.3	75.3	590.4	85.5	632.1	54.5
Prof. Ed. Test	218.5	31.1	229.5	39.2	216.4	49.9	65.5*	31.4
Composite	1,140.6	114.6	1,174.9	148.3	1,161.9	157.2	1,228.8	97.3

*Examination scoring changed in 1975-76.

American College Test

Table 32 shows comparative data for the results of the administration of the American College Test for all subjects across the four year period. It should be noted that students complete the ACT prior to admission to the freshman class of the University. No significant differences were noted in the sub-test or the composite scores from administration of the instrument. In general, the subjects were above the mean for all students admitted to the University during the period 1967 through 1972 (the possible date of initial admission to the University for the subjects).

Quality Point Averages

Table 33 shows a comparison of the means and standard deviations for a variety of undergraduate quality point averages in selected subject matter areas for subjects across the four years of the study. In general, across the four year period quality point averages has increased; however, application of the ANOVA indicated no significant differences.

California F-Scale

A comparison of the results of the administration of the California F-Scale to all first year subjects is shown in Table 34. In general, the subjects in the first year of the study tended to exhibit more authoritarian tendencies than did subjects in the second and third year of the study. Application of the analysis of variance technique indicated no significant differences between the four groups.

Table 32

COMPARISON OF AMERICAN COLLEGE TEST SCORES FOR FIRST YEAR
SUBJECTS 1973-1976 BY YEAR

Area	GRP 1973(N=32)		GRP 1974(N=27)		GRP 1975(N=25)		GRP 1976(N=21)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
English	20.3	7.8	19.0	8.0	20.0	7.1	19.9	3.4
Mathematics	17.3	8.5	15.7	5.7	16.5	5.2	17.4	6.2
Soc. Sci.	16.5	6.8	17.9	8.7	19.1	7.2	19.3	5.6
Nat. Sci.	17.8	5.3	21.6	14.9	21.4	11.4	20.9	3.4
Composite	19.5	11.9	18.7	7.1	20.6	11.2	19.6	3.5

Table 33

COMPARISON OF QUALITY POINT AVERAGES IN VARIOUS AREAS FOR FIRST YEAR
SUBJECTS 1973-1976 BY YEAR

Area	GRP 1973(N=52)		GRP 1974(N=32)		GRP 1975(N=32)		GRP 1976(N=21)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
Soc. Sci.	2.48	0.58	2.58	0.74	2.57	0.71	2.53	0.69
Science	2.43	0.77	2.55	0.66	2.72	0.74	2.49	0.65
Mathematics	2.55	0.85	2.77	0.75	2.93	0.92	2.93	0.90
English	2.52	0.65	2.73	0.58	2.75	0.65	2.83	0.62
Ed. & Psy.	3.20	0.47	3.31	0.38	3.44	0.29	3.42	0.29
Major Field	3.23	1.31	3.30	0.89	3.28	0.43	3.40	0.78
Overall	2.84	0.44	3.04	0.72	3.10	0.40	3.15	0.48

Principals' Ratings

Table 35 shows the mean and standard deviation of the principals' ratings of the first year subjects across the four years of the study. Application of the analysis of variance technique to the data indicated there were no significant differences on each of the four factors across the four years of the study. Similar results were noted for individuals in the second and third year of the study (Tables 36 and 37).

Table 34

COMPARISON OF F-SCALE SCORES FOR FIRST YEAR SUBJECTS 1973-1976 BY YEAR

F-Scale	GRP 1973(N=40)		GRP 1974(N=29)		GRP 1975(N=31)		GRP 1976(N=29)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
Score	112.6	9.5	101.7	20.0	101.9	24.2	97.1	15.9

Table 35

COMPARISON OF PRINCIPALS' RATINGS FOR FIRST YEAR SUBJECTS BY YEAR 1973-1976

Factor	GRP 1973(N=46)		GRP 1974(N=29)		GRP 1975(N=29)		GRP 1976(N=21)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
I	4.09	0.73	4.03	0.77	4.21	0.69	4.30	0.63
II	4.11	0.85	4.17	0.89	4.48	0.69	4.39	0.66
III	4.18	0.72	4.03	0.68	4.25	0.75	4.39	0.66
IV	4.09	0.70	4.12	0.78	4.14	0.70	4.36	0.66

Table 36

COMPARISON OF PRINCIPALS' RATINGS FOR B.S. GROUPS AT TIME OF BEING IN STUDY FOR SECOND YEAR (1973, 1974, and 1975 GRADUATES IN 1974, 1975 AND 1976)

Factor	GRP 1973 (N=28)		GRP 1974 (N=26)		GRP 1975 (N=17)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
I	4.1	0.7	4.2	0.7	4.2	0.9
II	4.1	0.9	4.1	0.8	4.5	0.7
III	3.9	0.7	4.1	0.7	4.2	0.8
IV	4.1	0.8	4.2	0.7	4.2	0.8

Table 37

COMPARISON OF PRINCIPALS' RATINGS FOR B.S. GROUPS AT TIME OF BEING IN STUDY
FOR THIRD YEAR (1973 and 1974 GRADUATES IN 1975 and 1976)

Factor	GRP 1973 (N=20)		GRP 1974 (N=19)	
	\bar{X}	SD	\bar{X}	SD
I	4.2	0.8	4.4	0.6
II	4.2	0.9	4.4	0.7
III	4.4	0.8	4.3	0.6
IV	4.1	0.8	4.2	0.7

Table 38

COMPARISON OF SET-I SCORES FOR FIRST YEAR SUBJECTS ACROSS THREE YEARS 1973-1975

Factor	GRP 1973(N=25)		GRP 1974(N=10)		GRP 1975(N=19)		GRP 1976(N=15)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
I	344.5	45.8	307.9	56.8	347.6	32.8	344.7	32.3
II	346.6	38.3	309.6	70.4	347.3	24.3	331.8	35.2
III	307.1	63.6	299.1	57.1	303.5	38.7	292.3	36.9
IV	306.6	38.2	312.6	37.5	304.8	38.5	294.2	27.4
V	255.9	44.9	236.0	55.6	247.5	48.6	273.8	39.9
VI-Total	315.6	29.4	292.8	34.2	310.1	25.7	307.3	20.0

Student Evaluation of Teaching

Table 38 shows the means and standard deviations for the first year subjects across the four years for each of the factors of the SET-I and the total score (VI). In general, those individuals who entered the second year of the study were rated lower by their students than those individuals who entered the study in 1973 or 1975 and 1976. Table 39 shows similar data for all subjects during their second year in the study and Table 40 shows the results for third year subjects. Again the application of the analysis of variance or t-test techniques indicated no significant differences across years.

Table 39

41

COMPARISON OF SET-I SCORES FOR B.S. GROUPS AT TIME OF BEING IN STUDY
FOR SECOND YEAR (1973, 1974 and 1975 GRADUATES IN 1974, 1975 and 1976)

Factor	GRP 1973 (N=25)		GRP 1974 (N=14)		GRP 1975 (N=7)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
I	293.8	37.6	336.6	31.2	350.7	29.2
II	361.6	71.9	356.8	18.4	338.7	31.0
III	313.4	43.0	298.4	35.6	303.3	50.1
IV	265.8	48.2	310.1	32.2	286.4	26.7
V	243.0	40.2	267.4	41.2	279.4	49.5
VI-Total	295.6	47.7	313.8	19.4	211.6	30.9

Table 40

COMPARISON OF SET-I SCORES FOR B.S. GROUPS AT TIME OF BEING IN STUDY
FOR THIRD YEAR (1973 and 1974 GRADUATE IN 1975 and 1976)

Factor	GRP 1973 (N=14)		GRP 1974 (N=11)	
	\bar{X}	SD	\bar{X}	SD
I	338.4	44.4	327.2	39.3
II	355.0	25.5	344.1	21.9
III	298.0	56.5	289.9	60.3
IV	300.2	32.2	295.2	63.5
V	275.9	36.8	236.2	43.3
VI-Total	311.5	27.6	298.5	32.8

Interaction Analysis

Table 41 shows the means and standard deviations for the five ratios derived from the use of interaction analysis with the first year subjects. Results of the application of the analysis of variance technique to the

data indicated a significant difference (at the .05 level) in the Lecture/Total ratio. Application of the t-test indicated that there were significant differences between first and second and third and second and fourth and first and fourth year subjects. The Lec/Tot ratio was significantly lower for the 1974 group than either the 1973 or 1975 and 1976 groups. No explanation can be offered for the apparent lower Lec/Tot ratio for the 1974 group.

Table 41

COMPARISON OF RATIOS FROM INTERACTION ANALYSIS FOR
FIRST YEAR SUBJECTS 1973-1976

Ratio	GRP 1973(N=39)		GRP 1974(N=31)		GRP 1975(N=38)		GRP 1976(N=18)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
i/d	2.10	3.60	1.32	1.96	3.18	3.25	3.16	2.94
I/D	0.98	1.57	0.65	0.46	0.75	0.45	0.87	0.68
ST/TT	0.64	0.61	0.78	1.17	0.52	0.19	0.69	0.50
Sil/Tot	0.47	0.99	0.50	0.76	0.39	0.36	0.13	0.13
Lec/Tot	0.51	0.21	0.40	0.18	0.51	0.14	0.45	0.24

Tables 42 and 43 show similar results for all second and third year subjects respectively. Application of analysis of variance indicated no significant differences.

Table 42

COMPARISON OF RATIOS FROM INTERACTION ANALYSIS FOR B.S. GROUPS AT TIME OF
BEING IN STUDY FOR SECOND YEAR (1973, 1974, and 1975 GRADUATES IN 1974, 1975
and 1976).

Ratio	GRP 1973 (N=28)		GRP 1974 (N=26)		GRP 1975 (N=14)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
i/d	0.70	0.31	0.71	0.49	1.67	2.02
I/D	1.55	1.03	1.93	1.77	2.38	1.48
ST/TT	0.58	0.44	0.80	1.00	0.77	0.43
Sil/Tot	0.34	0.36	0.53	0.43	0.14	0.19
Lec/Tot	0.45	0.16	0.47	0.16	0.61	0.89

Table 43

COMPARISON OF RATIOS FROM INTERACTION ANALYSIS FOR B.S. GROUPS AT TIME OF BEING IN STUDY FOR THIRD YEAR (1973 and 1974 GRADUATES IN 1975 and 1976)

Ratio	GRP 1973 (N=23)		GRP 1974 (N=24)	
	X	SD	X	SD
i/d	0.47	1.08	1.01	0.79
I/D	1.16	0.30	2.37	2.13
ST/TT	0.39	0.24	0.55	0.27
Sll/Tot	0.31	0.27	0.18	0.15
Lec/Tot	0.59	0.16	0.48	0.39

Classroom Observation Record

Tables 44 through 46 show respectively the results of the use of the Classroom Observation Record for all first, second and third year subjects. Again, only minor significant differences were noted across the various groups.

Summary

In summary, this chapter has presented selected data collected from other than first year subjects in the study. Also, a brief study of comparisons of data collected over the four year period of the study has been presented. Results of the study indicated some differences in the correlational patterns of the variables under examination. Comparison of data collected on the same groups of subjects across four, three and two indicated few differences. Data collected on four groups of first year subjects, three groups of second year subjects and two groups of third year subjects also revealed few differences. It might be concluded that the subjects changed little over the four years of the study and that the graduates entering the teaching field have changed little over the period. Further study will be conducted in future years of the project to verify these results. Also, additional analyses will be conducted to verify other hypothesized results.

Table 44

Comparison of COR Scores For First Year Subjects 1973-1976 by Year

Factor	GRP 1973(N=42)		GRP 1974(N=31)		GRP 1975(N=31)		GRP 1976(N=21)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
1	6.0	0.9	5.1	1.0	6.1	0.9	5.3	1.4
2	5.8	0.9	4.9	1.0	5.7	0.9	5.1	1.2
3	5.6	1.0	4.9	1.2	5.9	0.8	4.9	1.2
4	5.2	1.2	4.5	1.2	5.8	0.9	4.4	1.5
5	6.1	0.8	5.4	0.9	6.4	0.6	6.3	0.8
6	5.7	1.0	5.1	0.9	6.2	0.9	5.1	1.7
7	6.1	0.9	5.4	1.1	6.3	0.7	5.5	1.1
8	6.2	0.8	5.5	0.9	6.4	0.7	5.6	1.3
9	6.2	0.7	5.5	1.0	6.3	0.9	5.5	1.5
10	5.7	1.0	5.4	1.1	5.7	0.8	5.2	1.4
11	5.4	1.1	4.9	1.3	5.6	0.8	4.9	1.6
12	6.1	0.8	5.4	1.0	6.4	0.7	5.7	1.4
13	6.3	0.7	5.5	0.9	6.4	0.7	6.7	0.5
14	6.3	0.8	5.9	0.8	6.5	0.7	5.8	1.5
15	5.9	1.0	5.2	1.2	6.3	0.8	5.8	1.2
16	6.1	1.0	5.4	1.0	6.3	0.8	6.2	1.1
17	5.8	1.1	5.0	1.2	6.3	0.8	6.0	1.0
18	6.1	1.0	5.7	0.8	6.1	1.0	5.8	1.3
19	5.8	1.1	5.0	1.1	5.8	0.8	5.4	1.3
20	5.8	1.1	5.1	0.9	6.4	0.7	5.5	1.4
21	6.0	0.9	5.3	1.0	6.5	0.7	5.5	1.0
22	5.8	0.8	4.9	0.8	5.8	0.8	5.1	1.4

Table 45

Comparison of COR Scores For B.S. Groups At Time of Being in Study For
Second Year (1973, 1974, and 1975 Graduates in 1974, 1975, and 1976)

Factor	GRP 1973 (N=28)		GRP 1974 (N=26)		GRP 1975 (N=15)	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
1	5.1	1.2	6.1	0.9	5.4	1.0
2	5.0	1.1	5.8	0.6	5.3	1.1
3	4.9	1.1	5.8	0.9	5.2	1.1
4	4.9	1.2	6.0	0.9	4.8	1.2
5	5.5	1.0	6.4	0.6	6.3	0.9
6	5.2	1.1	6.0	1.0	5.3	1.7
7	5.5	1.4	6.2	0.9	5.5	1.4
8	5.4	1.2	6.2	0.7	5.8	1.2
9	5.8	0.8	6.2	0.9	5.9	1.4
10	5.2	1.2	6.2	1.0	5.3	1.3
11	5.1	1.1	5.7	1.1	4.8	1.3
12	5.5	0.8	6.4	0.8	5.7	1.3
13	5.4	0.9	6.2	0.7	6.7	0.6
14	5.7	0.9	6.5	0.7	6.0	1.3
15	5.3	1.0	6.5	0.6	5.6	1.4
16	5.5	0.9	6.5	0.7	5.9	1.4
17	5.4	1.0	6.6	0.6	5.8	1.4
18	5.4	1.0	6.2	0.7	5.6	1.5
19	5.3	1.1	5.9	1.1	5.6	1.3
20	5.3	1.1	6.1	1.0	5.8	1.3
21	5.3	0.8	6.3	0.7	5.6	1.3
22	5.1	1.0	6.0	1.1	5.4	1.3

Table 46

Comparison of COR Scores for B.S. Groups At Time of Being in Study.
For Third Year, (1973 and 1974 Graduates in 1975 and 1976)

Factor	GRP 1973 (N=23)		GRP 1974 (N=15)	
	X	SD	X	SD
1	6.0	0.9	5.8	1.0
2	5.7	0.9	5.2	1.0
3	5.6	1.3	5.3	1.4
4	5.5	1.3	4.7	1.8
5	6.4	0.7	6.3	0.9
6	5.7	1.3	4.6	2.1
7	6.1	1.4	5.7	1.4
8	6.1	1.3	5.6	1.4
9	6.1	1.2	5.4	1.4
10	5.8	1.2	5.7	1.2
11	5.5	1.2	4.8	1.6
12	6.1	1.0	5.8	1.1
13	5.9	1.3	6.5	0.5
14	6.5	0.6	6.2	0.8
15	6.4	0.8	5.8	1.2
16	6.5	0.7	5.8	1.2
17	6.4	0.8	5.8	1.2
18	6.3	0.8	5.7	1.1
19	6.0	1.1	5.4	1.1
20	6.1	1.2	5.7	1.0
21	6.2	0.7	5.7	0.9
22	5.8	1.2	5.6	0.8

CHAPTER IV

SPECIAL STUDIES RELATED TO MODEL

The objectives of this chapter are to describe very briefly several special studies that have been carried out in connection with the total application of the Tennessee Technological University Teacher Evaluation Model. These studies are only representative of the type that can be carried out. Other studies are planned for the coming year based on the voluminous data that have been collected over the past four years. Readers of this report should feel free to contact the author with regard to suggestions for other studies utilizing the data.

Factor Analysis of Classroom Observation Data

The Classroom Observation Record was developed by Ryans and described in his publication Characteristics of Teachers (1). Throughout his work Ryans describes in detail the development of the COR through the use of factor analysis. The purpose of this study was to replicate the work of Ryans and that of Adams (2).

All data collected by use of the COR were factor analyzed to obtain the best solution to the problem. After extensive work it was found that the best solution was for three factors, which were similar to those outlined by Ryans. Table 47 shows the varimax rotated factor matrix for the COR data ($N = 315$).

Factor I consisted of items 10, 12, 14, 15, 16, 17, and 18 and corresponded in part to Ryans' Y_0 factor of responsible, systematic, businesslike versus evading, unplanned, slipshod teacher behavior. Factor II consisted of items 5, 6, 7, 8, 9, 11, 13, 19, 20, 21 and 22 and corresponded to Ryans' X_0 factor of kindly, understanding, friendly versus aloof, egocentric, restricted teacher behavior. Factor III consisted of items 1, 2, 3, and 4 which described pupil behavior. Table 48 shows a summary of the eigenvalues and percent of variance accounted for by the three factor solution.

Since the results of the factor analysis approached those of Ryans' original work, it was felt that the reliability of the instrument was in part established. Results of the application of factor analysis can now be used in other types of analysis. It should be noted that the results of the factor analysis also approach the results outlined by Adams (3).

Three Levels of Authoritarianism

Previous studies conducted as a part of the longitudinal study have indicated a relationship between effective teaching and levels of authoritarianism exhibited by teachers. In order to test the hypothesis with the data gathered as a part of this study, an examination was made

Table 47.

Varimax Rotated Factor Matrix for Classroom Observation Record (N = 315 Cases)

Items	Factors		
	I	II	III
1. Apathetic vs. Alert	.396	.191	.735
2. Obstructive vs. Responsible	.398	.209	.654
3. Uncertain vs. Confident	.298	.291	.754
4. Dependent vs. Initiating	.124	.387	.665
5. Partial vs. Fair	.386	.483	.338
6. Autocratic vs. Democratic	.027	.534	.390
7. Aloof vs. Responsive	.373	.603	.370
8. Restricted vs. Understanding	.273	.789	.320
9. Harsh vs. Kindly	.197	.790	.133
10. Dull vs. Stimulating	.496	.412	.460
11. Stereotyped vs. Original	.369	.540	.395
12. Apathetic vs. Alert	.682	.357	.339
13. Unimpressive vs. Attractive	.294	.453	.058
14. Evading vs. Responsible	.774	.250	.225
15. Erratic vs. Steady	.801	.268	.311
16. Excitable vs. Poised	.583	.436	.306
17. Uncertain vs. Confident	.766	.391	.282
18. Disorganized vs. Systematic	.814	.165	.184
19. Inflexible vs. Adaptable	.453	.633	.315
20. Pessimistic vs. Optimistic	.376	.755	.253
21. Immature vs. Integrated	.564	.567	.316
22. Narrow vs. Broad	.435	.641	.325

Table 48

Eigenvalue and Percent of Variance for Classroom Observation Record Factor Analysis

Factor	Eigenvalue	% of Variance	Cum. %
I	12.25	84.4	84.4
II	1.30	9.0	93.4
III	0.96	6.6	100.0

of the F-Scale scores achieved by all subjects. The subjects were divided into three groups of approximately the same size based on F-Scale scores (i.e., those with scores < 90, 90-110, and > 110). Table 49 shows the means, standard deviations and range for each of the three groups. The means closely approximate those in a similar study reported by Sandefur and Adams (4). Table 50 shows an analysis of variance for the data. Differences between the groups were significant beyond the .0001 level of confidence.

Table 49

Means, Standard Deviations and Ranges for Three Levels of F-Scale Scores

Scale Score	N	Mean	Standard Deviation	Range
< 90	52	77.6	11.2	48-90
90-110	47	99.4	5.8	91-109
> 110	51	123.8	13.6	111-177
Total	150	100.1	22.0	48-177

Simple analysis of variance techniques were applied to data collected by Principals Ratings, Student Evaluation of Teaching, Interaction Analysis, and Classroom Observation Record over three levels of authoritarianism as described above. Table 51 shows the means and standard deviations of the Principals Ratings on the four factors from the instrument. Use of the ANOVA indicated that there were no significant differences across groups. However, in general, subjects who were near the mean in level of exhibited authoritarianism as measured by the F-Scale were rated slightly higher than subjects in the extreme groups.

Table 50

Analysis of Variance for Three Groups Based on F-Scale Scores

Source	DF	Sum Sqs.	Mean Sq.	F-Ratio
Between	2	55.059.5	27,529.7	237.1*
Within	147	17,065.3	116.1	
Total	139	72,124.8		

*p .001

Table 51

Means and Standard Deviations of Principals Ratings Based on Scores From the California F-Scale*

Factor	F-Scale < 90		F-Scale 90-110		F-Scale > 110	
	X	SD	X	SD	X	SD
I	4.2	0.7	4.3	0.7	4.0	0.7
II	4.2	0.8	4.3	0.7	4.3	0.8
III	4.3	0.7	4.3	0.7	4.1	0.7
IV	4.3	0.7	4.3	0.7	4.0	0.8

*F-Scale < 90, N = 69; F-Scale 90-110, N = 40; F-Scale > 110, N = 42.

Table 52 shows the means and standard deviations for the five factors and total score from the Student Evaluation of Teaching-I across three levels of authoritarianism. In general, those subjects who exhibited less authoritarianism (lower F-Scale score) were rated higher by their students. Application of the ANOVA indicated no significant differences between the three groups for each of the five factors and the total score. Similar findings were noted when the same techniques were applied to the results from the Student Evaluation of Teaching-II (see Table 53). The ANOVA tables have been omitted.

Application of the above techniques to the data collected by use of interaction analysis generally favored the group whose level of exhibited authoritarianism approached the mean (see Table 54). Application of the ANOVA technique indicated no significant differences between the three groups (these data have been omitted).

Table 52

Means and Standard Deviations of Scores from the Student Evaluation of Teaching-I Based on Scores from the California F-Scale*

Factor	F-Scale < 90		F-Scale 90-110		F-Scale > 110	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
I	348.5	43.8	329.4	46.5	338.2	42.7
II	346.4	45.8	345.7	44.3	340.4	45.5
III	309.7	48.8	297.6	53.4	296.8	47.1
IV	305.3	46.5	310.5	51.3	307.7	50.3
V	264.1	55.1	263.5	50.7	244.4	59.0
VI	316.1	47.9	305.2	57.1	305.7	32.0

*F-Scale < 90, N = 49; F-Scale 90-110, N = 25; F-Scale > 110, N = 26.

Table 53

Means and Standard Deviations of Scores from the Student evaluation of Teaching-II Based on Scores from the California F-Scale*

Factor	F-Scale < 90		F-Scale 90-110		F-Scale > 110	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
Rapport	5.5	0.8	5.0	1.8	5.7	1.2
Interactional Competence	4.9	1.2	4.3	1.1	5.1	2.3
Stimulating, Interaction Style	10.6	3.2	9.2	2.9	9.9	2.8
Unreasonable Negativity	8.6	0.9	8.0	2.5	7.8	2.2
Fostering of Self-Esteem	6.8	0.8	6.3	2.0	6.5	1.8

*F-Scale < 90, N = 24; F-Scale 90-110, N = 13; F-Scale > 110, N = 16.

Table 55 shows a summary of the means and standard deviations of scores from the COR based on level of exhibited authoritarianism. No significant differences were noted between the three groups on each of the 22 factors. The ANOVA table has been omitted. Table 56 shows the means and standard

Table 54

Means and Standard Deviations of Flanders Ratios Based on Scores
From the California F-Scale*

Ratios	F-Scale < 90		F-Scale 90-110		F-Scale > 110	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
Indirect/Direct (I/D)	3.20	0.71	3.57	1.40	2.68	1.10
Indirect/Direct (i/d)	0.77	1.07	0.69	0.50	0.68	0.50
Student/Teacher Talk (ST/TT)	0.62	0.63	0.53	0.29	0.72	1.14
Sil/Total Teaching (Sil/Tot)	0.42	0.82	0.47	0.81	0.51	0.84
Lec/Total Teaching (Lec/Tot)	0.58	0.70	0.47	0.22	0.50	0.21

*F-Scale < 90, N = 52; F-Scale 90-110, N = 28; F-Scale > 110, N = 42.

Table 55

Means and Standard Deviation of Scores from the Classroom Observation Record
Based on Scores from the California F-Scale*

Factor	F-Scale < 90		F-Scale 90-110		F-Scale > 110	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
1	5.7	1.2	5.3	0.9	5.7	0.9
2	5.4	1.2	5.4	0.9	5.4	0.9
3	5.3	1.2	5.5	1.1	5.4	1.0
4	5.3	1.3	5.2	1.2	4.9	1.2
5	6.1	1.1	6.1	0.8	5.9	0.9
6	5.7	1.4	5.7	0.9	5.4	1.2
7	6.0	1.2	5.8	1.0	5.7	1.1
8	6.1	1.1	5.9	0.9	5.8	1.0
9	6.1	1.0	5.8	1.1	5.7	1.1
10	5.5	1.4	5.6	0.8	5.5	0.9

Table 55 (continued)

53

11	5.3	1.4	5.2	0.8	5.4	1.0
12	5.9	1.2	5.9	0.8	6.0	0.9
13	6.4	0.8	5.9	1.0	6.1	0.9
14	6.2	1.2	6.0	0.7	6.3	0.7
15	6.0	1.2	6.0	0.9	5.9	1.0
16	6.2	1.0	6.1	0.8	6.0	0.8
17	5.9	1.2	5.8	1.0	5.8	1.1
18	5.9	1.3	5.7	0.7	6.2	0.8
19	5.7	1.1	5.8	1.0	5.4	1.0
20	6.1	1.1	5.8	0.9	5.7	1.2
21	5.8	1.1	5.8	1.0	5.9	1.0
22	5.7	1.1	5.7	0.8	5.3	1.1

*F-Scale < 90, N = 55; F-Scale 90-110, N = 28; F-Scale > 110, N = 35.

Table 56

Means and Standard Deviations of Scores for the Three Factors (Obtained by Factor Analysis of the Classroom Observation Record Based on Scores from the California F-Scale)

Factor	F-Scale < 90		F-Scale 90-110		F-Scale > 110	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
I	5.9	1.1	5.9	1.0	6.0	1.1
II	5.9	0.9	5.8	1.0	5.7	1.0
III	5.4	1.2	5.4	1.0	5.4	1.0

deviations for the three factors. (based on the use of factor analysis) from the COR based on the three levels of authoritarianism. Again, there were no significant differences.

In summary this chapter has presented the results of two of many studies that could be performed as a part of the larger application of the Tennessee Technological University Teacher Evaluation Model. Results of the factor analysis of data collected by use of the Classroom Observation Record were similar to those reported by Ryans' in work performed during the late 1950's. This would indicate that the instrument has reasonable reliability. Examination of the levels of authoritarianism exhibited by subjects in the study to data from other instruments were found to be similar to results from other reported studies. In general, it might be concluded that subjects who tended to be less authoritarian were exhibiting more of the qualities associated with good teaching than subjects who tended to be more authoritarian. This hypothesis will be tested further as a part of the total study. The readers of this study are invited to raise other questions that might be answered with the data that has been previously collected.

References

1. Ryans, David G. Characteristics of Teachers, Washington: American Council on Education, 1960.
2. Personal communication with Dr. Ronald D. Adams, College of Education, Western Kentucky University, September, 1976.
3. Ibid.
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CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND FUTURE PLANS

The objectives of this chapter are fourfold: (1) summarize briefly the total evaluation study that was conducted in 1976-77; (2) summarize some of the major conclusions of the study; (3) make recommendations based on the conclusions of the study; and (4) present plans for the continuation of the study.

Summary

Four distinct groups of subjects were used in the study. The first group consisted of 23 individuals who participated in the first three years of the study and received their degrees between 1971 and 1973. The second group received their degrees in 1974 and consisted of 22 individuals who were participating for the third year. Group three consisted of 25 individuals who received their degree in 1975 and were participating for the second year and group four consisted of 26 1976 graduates who were in their initial year of the study. Detailed data were collected on each subject by use of standardized instruments administered by specially trained graduate assistants or from University records. Basic instrumentation and procedures for the study were pilot tested during the first year of the study and included: (1) University permanent records and transcript information; (2) principals' evaluation of each subject by the use of two different instruments; (3) administration of the California F-Scale (only to those subjects who were participating in the study for the first time) to measure individual prejudices and anti-democratic tendencies; (4) administration of the Classroom Observation Record and the Tuckman Teacher Feedback Form; (5) administration of one form of the Student Evaluation of Teaching to the students of the subjects; and (6) a ten category interaction analysis system to record observed classroom behavior. All data obtained in the study were classified, coded, and key punched for analysis. Descriptive statistics, intercorrelations and comparisons were computed. The major findings of the study were divided into three major parts, e.g., first year subjects, comparisons across time and by area, and special studies.

The major findings of the study for the first year subjects were similar to those reported in the first three years of the study. Therefore, no detailed explanation of the findings will be given at this point (see Chapters II and III). Detailed comparisons across four, three and two years of the study, for those individuals that entered the project in, respectively, 1973, 1974, and 1975 indicated few differences. The differences that were noted were minor and in most cases no explanation can be offered for the changes. Comparisons were also made of all first year, second year and third year subjects. Again, only minor differences were noted. In summary, it appeared that the subjects who had been in the study for more than one year had changed little. Also it appeared that those students who entered the study in 1976 were little different from their counterparts that were in the initial year of the project.

Chapter IV of this report summarizes the results of two special studies that were conducted in the past year. Factor analysis of the COR gave results similar to that reported in the literature. A study of the results of the administration of the California F-Scale indicated that those subjects who appeared to be less authoritarian exhibited many of the characteristics of good teachers reported in the literature.

Based on the findings of the study, several conclusions were advanced and recommendations made for continuation of the study. These follow in the next two sections:

Conclusions

Following are the major conclusions of the study based on the findings. It should be noted that additional analyses of the data are planned that may make additional conclusions warranted. This section is divided into the following parts: Use of the Evaluation Model, Evaluation of Graduates During 1976-77, Comparisons of Data Across Time, and Special Studies.

Use of the Evaluation Model

1. The plan of evaluation outlined in this report appeared to be useful in gathering information for modifying and improving the programs of teacher education at Tennessee Technological University.
2. Instrumentation employed in the study appeared to be valid and provided essential information with regard to the graduates of the teacher education programs.
3. Modifications can be made in the original model that can lead to more valid and useful information for an institution wishing to replicate the plan of evaluation.
4. Some problems have resulted in the collection and analyses of data because of the attrition of subjects from the first two years of the study. Additional attrition in the future may make it difficult to draw valid and reliable conclusions.
5. Better and more refined methods are needed for training of the graduate assistants in the use of the Classroom Observation Record. It was felt that some of the significant differences that were noted in the study may have been due to unreliable observations.

Evaluation of Graduates During 1976-77

1. The pupils of more experienced teachers appeared to be more alert, initiating, and resourceful in their classroom activities.
2. Subjects with greater experience in the classroom appeared to be more fair, democratic, alert, and have a broader base of behavior than the less experienced teachers.
3. Students of subjects in the upper grades felt that the teachers did not exercise enough control in the classroom.
4. As perceived by students, the teachers in the upper grades were more directive in their instructional activities than teachers in the lower grades.
5. Subjects at higher grade levels are using significantly more lecture in the classroom than teachers in the lower grades.
6. Subjects with higher quality point averages in education and psychology courses had better relations with students and were in general more friendly and cheerful, knowledgeable and poised, and non-directive in their teaching.
7. Subjects who achieved higher quality point averages in their major teaching fields tended to be more authoritarian oriented than subjects who achieved at a lower level. This is probably due in part to the fact that the large majority of the subjects were teaching in the upper grades where less democratic and more authoritarian teaching methods were used or the subjects were attempting to complete a specified unit or curriculum.
8. Subjects with overall higher quality point averages and years of experience appeared to use more indirect methods than students with lower quality point averages.
9. Overall scores achieved by the subjects on the National Teacher Examinations placed the individuals at approximately the 50th percentile which is comparable with other groups that have been studied.
10. Subjects who tended to achieve higher on the Professional Education Test of the NTE tended to be more knowledgeable and poised than other subjects.
11. Ratings of various aspects of the teacher preparation program of the University by the subjects were similar to that of other groups of individuals.
12. In general, principals' ratings of the subjects were high. However, it should be pointed out that principals rated the subjects somewhat lower in their knowledge and understanding of the sciences and mathematics, lacking effective use of community resources, handling disciplinary

problems, and insight into characteristics of behavior. Highest ratings of the subjects were noted in the areas of ability to work with and attitudes toward colleagues, ethical behavior; understanding the goals of the school, and cooperation and dependability.

13. There was a positive correlation between the principals' ratings and various items on the Classroom Observation Record and the Student Evaluation of Teaching. Based on the principals' observation (it appeared that) the subjects in this study possessed many of the characteristics of good teachers as reported in the literature.
14. The subjects of this study appeared to be more non-authoritarian than authoritarian as measured by the California F-Scale. There were no significant differences in scores achieved by the subjects when examined on the basis of grade level or years of experience in the classroom. These findings are to some degree contrary to findings of other studies reported in the literature.
15. The ratings of the subjects by the students correlated highly with ratings made by the principals and the trained observers who completed the Classroom Observation Record.
16. Based on student observations, the subjects were highly knowledgeable and poised; and on the negative side the students perceived the subjects as being more directive than non-directive as measured by the Student Evaluation of Teaching.
17. The subjects in the study appeared to be using more indirect than direct teaching methods in their classrooms. Indirect-direct ratios based on the interaction analysis system used were higher than for comparable groups.
18. Other ratios computed from the interaction analysis observations were comparable to those reported in the literature.
19. Many of the characteristics reported in the literature of good teachers were noted as a result of the administration of the Classroom Observation Record.

In general, the subjects of this study seemed to possess many of the characteristics of good teachers as reported in the literature. As might be expected, it was difficult to identify specific problems. Principals praised the teacher as did their students. However, it must be kept in mind that the subjects who participated in this study were volunteers. Therefore, some bias has been introduced into the total study that may make some of the conclusions invalid when applied to the total population of graduates.

Comparisons of Data Across Time

1. Subjects who entered the study in 1973 (the first year of the project) have changed little across the four year period.

2. Subjects who entered the project in 1973, 1974, 1975 or 1976 appeared to be very similar in their first year of teaching. Either the University programs have not changed sufficiently for changes to occur or the instrumentation is not sensitive enough to pick up the changes.
3. Based on the results of the very limited comparisons that were made, the subjects reached a level of teaching proficiency during their first year in the classroom and this level has remained nearly constant across four years.

In summary, the results of the study lead to similar conclusions as in the past. Across the four years of the study, the subjects have remained almost unchanged and comparisons of the four first year groups indicated few or no differences. It might be further concluded that if there are differences in the groups, the present instrumentation is not sensitive to the differences.

Special Studies

Only a limited number of special studies were carried out during the year that were related directly to the project. Following are several major conclusions that were advanced.

1. Levels of authoritarianism exhibited by the subjects did not appear to effect performance on the other instrumentation used in the study. However, in general subjects who achieved scores near the mean on the California F-Scale appeared to achieve more desirable scores on the instrumentation relative to teaching performance.
2. Based on the use of factor analysis, the reliability of the Classroom Observation Record was established.
3. Further analyses should be made of the influence of authoritarianism on the performance of teachers in the classroom.

Recommendations

Based on the conclusions of this study, it is felt that the following recommendations are warranted. These recommendations center largely around the continuation and modification of the study outlined in this report. It is left to the reader to make recommendations relative to his individual problems and toward needed changes in the teacher education programs of the institution.

1. The plan outlined in this report should be replicated during 1978-79 adding another group of subjects who complete their degree requirements in 1977.
2. Continuing contact should be maintained with other institutions pursuing similar projects and the literature related to teacher evaluation should be continuously monitored.

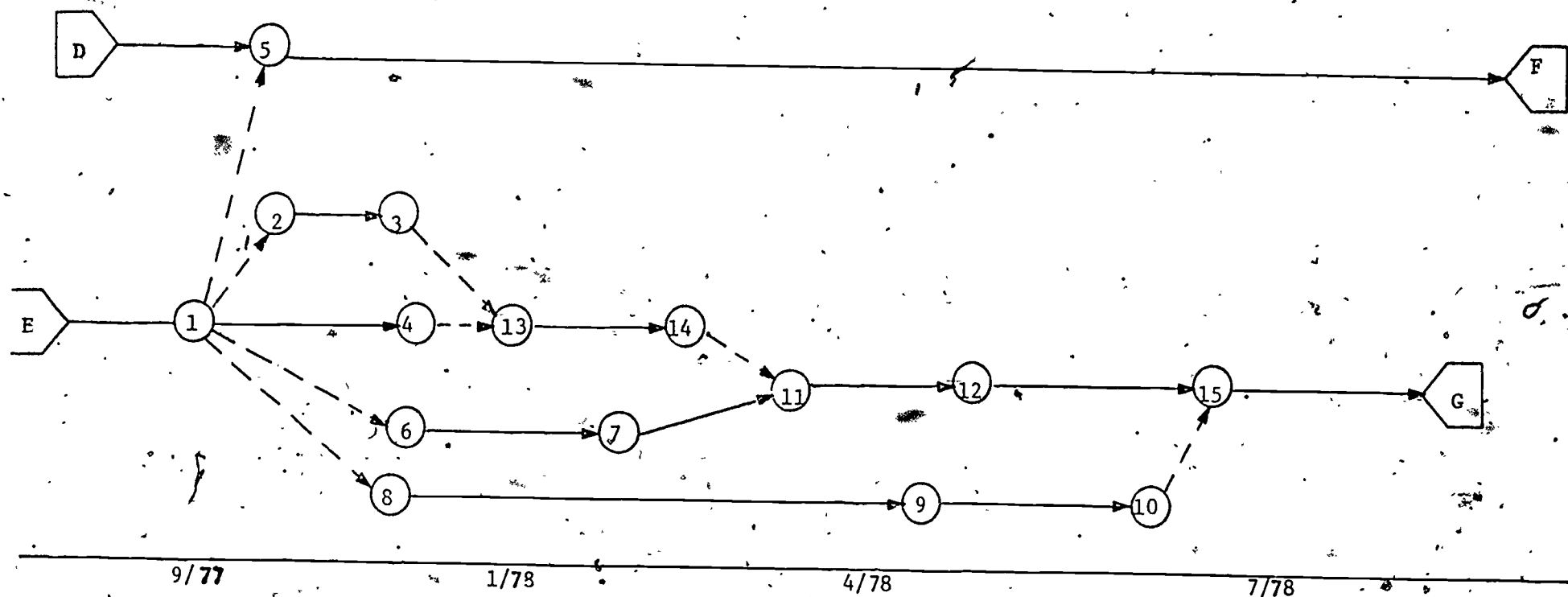
3. Consideration should be given to the use of other instruments to gather data as they become available.
4. Further analyses of the data should be made employing more sophisticated statistical techniques such as factor analysis and discriminate analysis.
5. Faculty of the institution and other individuals should be encouraged to review the report and to request additional data analyses to fit their individual needs.
6. A more extensive data bank of information on all students in the teacher education programs should be established. Thereafter, a more meaningful study can be made in relation to predicting success of graduates in teaching.
7. Better methods should be developed to optimize the participation of subjects in the study.
8. Development and refinement of a complete set of computer programs for use with the project should be continued. There is a need for more complete documentation of the programs available.
9. Faculty and administrators should be encouraged to make more use of the data that has been collected and to request additional information.
10. Work should continue on the development of other phases of the total evaluation project, i.e., instrumentation for use with Ed.S. level graduates and for those individuals in such fields as administration, supervision, and counseling.

Plans for the Continuation of the Study During 1977-78

During 1977-78 particular emphasis will be placed on evaluation studies of the 1973 through 1977 graduates of the teacher education programs. Subjects who graduated prior to 1973 will be dropped from further study because of the limitation of sample size. The potential population of 1973 through 1976 graduates is 76. In addition, a sample of approximately fifty 1977 graduates will be added to the study.

Figure 4 shows an abbreviated chart for the major activities of the project during 1977-78. Initially, three graduate students will engage in intensive studies of the use of the Classroom Observation Record, the Student Evaluation of Teaching, and Interaction Analysis. This will occur from approximately September 15 through October 25. Concurrent with these activities, a schedule of visitations will be developed for the 1973-76 graduates that have previously participated in the study. These 76 individuals will be visited starting the later part of October, 1977. Visitation will continue until sometime in January, 1978.

As soon as possible after the beginning of the fall quarter, a survey questionnaire will be sent to all 1977 graduates of the teacher education



Summary of Activities

- 1-4 Finalize Plans for Visiting Subjects in 1973-76 Phases of Study
- 2-3 Training of Observers
- 5-- Continuing Contact With Other Projects and Survey of the Literature
- 6-7 Survey All 1977 Graduates
- 8-9 Conduct Other Related Studies

- 9-10 Prepare Reports of Related Studies
- 7-11 Select Sample of 1977 Graduates for Intensive Study as Part of Followup
- 11-12 Make School Visits on 1977 Graduates
- 13-14 Make School Visits on 1973-76 Graduates
- 12-15 Complete Reports and Submit
- 15-- Begin Making Plans for 1978-79 Phase of Study

Figure 4. PERT Chart of Major Activities for 1977-78.

program. At this same time the 1977 graduates will be asked to participate in the study. It is anticipated that a sample of 40 B. S. level graduates and 10 M.A. level graduates will be selected. During the early part of the winter of 1978, a schedule of visitation for these individuals will be prepared. During the winter of 1978 and early spring, these individuals will be visited for purposes of observation and gathering baseline data.

Beginning in the late spring and continuing through the summer of 1978, data analysis will be made and a report of the third year activities of the study will be prepared. It is anticipated that this report will contain comparisons of the five years of the study.

During 1977-78 at least one or more special studies will be carried out that will lend extra data to the total project. Also, it is anticipated that further analyses of the accumulated data will be made as time and assistance are available. Plans for the special studies and data analyses will be made during the later part of the summer of 1977.

Long Range Plans

Tentative long range plans have been made for the total project. The assumption has been made that the level of funding for personnel will remain approximately the same. It is anticipated that in 1977-78 a group of 1977 graduates of the teacher education program will be added to the study and those individuals who graduated prior to 1973 will be dropped. The basic plan outlined for 1977-78 will be continued during 1978-79.

During 1977-78 an intensive evaluation will be made of all data that has been collected and major modifications may be made in the research design. It is further anticipated that additional instrumentation will become available which will make the project more meaningful.

APPENDIX A

REPORTS AND STUDIES RELATED TO THE TEACHER PREPARATION PROGRAMS OF TENNESSEE TECHNOLOGICAL UNIVERSITY

1. Ayers, Jerry B. Report I-Restudy. A Survey of the Graduates of the Teacher Preparation Programs of Tennessee Technological University for the Period 1965 Through 1969, Cookeville, TN: Tennessee Technological University, College of Education, 1971. (mimeo.), 49 pp.
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3. Ayers, Jerry B. Report III-Restudy. A Report of Four Surveys of the Graduates of the Teacher Preparation Programs of Tennessee Technological University for the Period 1965 Through 1970. Cookeville, TN: Tennessee Technological University, College of Education, 1971. (mimeo.), 39 pp.
4. Ayers, Jerry B. "Predicting Quality Point Averages in Master's Degree Programs in Education," Educational and Psychological Measurement, 31:491-95, 1971.
5. Ayers, Jerry B. A Survey of Student Teachers at Tennessee Technological University. Cookeville, TN: Tennessee Technological University, College of Education, 1971. (mimeo.), 7 pp.
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APPENDIX B

INSTRUMENTATION SUPPLEMENT

The purpose of Appendix B of this report is to provide a supplement of information for those individuals and institutions that might be interested in replicating the study. The first section of the Appendix contains a brief description of the procedures for the training of observers in the use of selected instruments. The second section contains copies (or a description) of each instrument and a brief explanation of their use in data gathering. The last section contains a listing of selected references related to the instrumentation.

Training of Observers

A critical element in the total process of data gathering is the use of observers. During each year of the study three graduate research assistance have been employed to visit in the schools and to collect data throughout the direct observations of the graduates while they are teaching. Particular emphasis has been placed on the use of Flander's Interaction Analysis, the Classroom Observation Record and the Tuckman Teacher Feedback Form. A critical element in the collection of reliable and valid data is the training of the observers.

Initially each graduate assistant was provided with all essential information about each of the observation systems. In addition to informal study and review of the materials, a consultant from the Department of Educational Psychology and Counselor Education worked with the graduate assistants in answering questions and providing additional assistance. After initial review of the materials, practice sessions were held under the supervision of the consultant using audio and video tapes of classroom situations. Following this activity a series of practice sessions were scheduled in the schools of Putnam County that lasted approximately three weeks.

The training procedures used in teaching the graduate assistants the use of interaction analysis are outlined by Amidon and Flanders (1). Basically these procedures included the memorization of categories, practicing coding and recording, and discussion of types of behavior related to the categories. Training in the use of the Classroom Observation Record and the Tuckman Teacher Feedback Form consisted largely of studying the items and the glossary of terms and observing teaching situations and discussing the teaching behavior to obtain a common point of reference for rating. Practice sessions were conducted parallel with those related to learning interaction analysis. It should be noted that, during the training sessions, the graduate assistants were always observing the same teacher at the same time.

Reliability coefficients were computed on a daily basis to provide a progress check on inter-observer reliability. The Scott coefficient recommended by Flanders (2) was used to determine inter-observer reliability for 20 minute interaction analysis recording sessions. Similar techniques were used with the Classroom Observation Record and the Tuckman Teacher

Feedback Form. Inter-observer reliabilities for this study have been on the order of magnitude of .80 to .95. Intercorrelations of ratings of the Classroom Observation Record and the Tuckman Teacher Feedback Form were on the order of .75. The values are within the limits suggested by Sandefur (3), i.e., .75 for inter-observer reliability coefficients for observational instruments.

Instrumentation

Instruments and records used for data collection have consisted of five general types: general information questionnaires, a personality scale, rating scales, direct classroom observational scales, and data from each subject's University transcripts. These instruments were selected to parallel the recommendations of Sandefur (4) and Adams (5) and on the basis of their merit as research tools, contributions of the data that could be collected to the objectives of the study, their methods of administration, availability for obtaining the required data, and minimal training required for administration of the instruments. Following is a brief description of each instrument or major category of data collection.

General Information Questionnaires

A questionnaire designed to obtain career base line data and graduate's ratings of the teacher education program (originally developed in 1970 and modified through several successive versions) was administered to all subjects during their first year in the study. Two forms of the instrument are available. The first form (Appendix B-1) was designed to be used with individuals who have completed the B.A. or B.S. The instrument contains items that provide information concerning demographic data, professional data, employment history, and ratings of ten broad areas related to the teacher preparation program. Items 1-9 of Section B of the instrument were designed to assess individual's self-ratings of achievement of the major objectives of the teacher education program of the University.

The second form of the general information questionnaire (Appendix B-2) was designed to be used with individuals who had completed the M.A. This instrument was designed to gather similar information as described for the bachelor's level instrument.

Both of the above instruments are designed to be used as a part of a mail survey of all graduates of the teacher education program in the year following completion of degree requirements. These instruments provide essential basic information needed for completion of other phases of the teacher evaluation model.

Permanent Records and Transcript Information

Complete transcripts of each subject's grades, etc., have been obtained from the Office of Admissions and Records. Also the records of the College of Education have been reviewed to locate scores from the National Teacher Examinations (completed by each subject during his senior year) and other information. Appendix B-3 shows a sample listing of the type information

collected and used as a part of the major study. At times data from other instrumentation has been collected and used in sub-projects related to the main application of the teacher evaluation model (see Appendix A).

A FOLLOW-UP STUDY OF B.S. AND B.A. GRADUATES OF TENNESSEE TECHNOLOGICAL UNIVERSITY

70

Please do not
write in this
space.

Tennessee Tech Graduate

We are engaged in a study of graduates of the teacher education program here at Tennessee Tech. Our purposes in this study are to
examine your appraisals of your college preparation, your teaching experience, and your impressions of your problems. Your thoughtful
response to the questions and statements below will be of great help and will be much appreciated. Most statements require only a check
it should take you no more than fifteen minutes to complete this questionnaire. All information will be treated as confidential and only
legal conclusions representing group data will be reported.

Please accept our thanks for taking a few minutes to fill in the indicated blanks and for returning the questionnaire in the enclosed
addressed envelope.

Sincerely yours,

Jerry B. Ayers
JERRY B. AYERS
Assistant to the Dean

A. GENERAL INFORMATION

Control No. _____

Name LAST FIRST MIDDLE MAIDEN Sex 1. Male 2. Female

Present Address _____

Permanent Mailing Address _____

Bachelor's Degree from Tennessee Tech 1. B.S. 2. B.A.

First Teaching Field _____ Second Teaching Field _____

Area of Teacher Certification 1. Elementary 2. Secondary 3. H of PE 4. Music
5. Early Childhood 6. Special Education

Are you now teaching, or will you be teaching this fall? 1. Yes 2. No

If you answered Yes to question 7, complete 7 (A). If you answered No to question 7, complete 7 (B).

A) School System _____

Name of School _____ Principal _____

Address of School _____

CITY _____ STATE _____ ZIP CODE _____

How many years have you taught (including the present)? _____

At what level will you be generally teaching this fall? 1. Preschool 2. Grades 1-3 3. Grades 4-6
4. Grades 7-9 5. Grades 10-12 6. Above 12th Grade

(B) If you are not teaching check one of the reasons given _____

3. Continuing formal study 4. Unemployed 5. Working in industry 6. Social Work

7. Other government work 8. Other reasons (Please specify) _____

Have you completed a Master's Degree 1. Yes 2. No If no, how many hours have you completed? _____

School _____

Are you teaching in your area of certification? 1. Yes 2. No

If you answered No to question 9, in what area are you teaching? _____

Please estimate your salary for the present year 1. less than \$5,000 2. \$5,001 to \$6,000 3. \$6,001 to \$7,000

4. \$7,001 to \$8,000 5. \$8,001 to \$9,000 6. \$9,001 to \$10,000 7. \$10,001 to \$11,000

8. \$11,001 to \$12,000 9. More than \$12,000

Your age 1. 20-24 2. 25-29 3. 30-34 4. 35-39 5. 40-49 6. 50 and over

Marital status 1. Single 2. Married 3. Divorced 4. Widowed

B. TEACHER PREPARATION PROGRAM

71

In order to evaluate your teacher preparation program, we would appreciate your indicating the degree to which you feel your college experiences were satisfactory in equipping you with the necessary skills and understandings in the following areas. Please check the appropriate space for each item.

	1 Very Unsatisfactory	2 Somewhat Unsatisfactory	3 Neither satis- factory nor Unsatisfactory	4 Somewhat Satisfactory	5 Very Satisfactory	
1. Your teaching personality						
a. Ability to work with children						36
b. Ability to work with colleagues						37
c. Ability to work with parents						38
2. Your general knowledge and understanding of						
a. Sciences and Mathematics						39
b. Humanities						40
c. Social Sciences						41
3. Your ability to use the English-language effectively						42
4. Your knowledge and understanding of the subjects which you teach						43
5. Your understanding of children and youth						
a. Insight into causes of behavior						44
b. Skill in working with exceptional children (the bright, the dull, the handicapped)						45
c. Skill in maintaining discipline						46
6. Your understanding of the nature of the learning process						47
7. Your knowledge of sources of teaching materials						48
8. Your ability to use teaching materials effectively						49
9. Your knowledge and understanding of						
a. The purposes of the school in relation to the over-all purpose of society						50
b. The social structure of the community and its meaning for education						51
10. Your evaluation of the following teacher preparation experiences						
a. INTRODUCTION TO TEACHING						52
b. GENERAL PSYCHOLOGY						53
c. HUMAN GROWTH AND DEVELOPMENT						54
d. EDUCATIONAL PSYCHOLOGY						55
e. SOCIAL FOUNDATIONS OF EDUCATION						56
f. HISTORY AND PHILOSOPHY OF EDUCATION						57
g. EVALUATION AND GUIDANCE						58
h. METHODS COURSES						59
i. MICRO TEACHING						60
j. STUDENT TEACHING						61
11. Overall how would you rate the quality of instruction in the college of education?						
1. very unsatisfactory						
2. somewhat unsatisfactory						
3. Neither unsatisfactory nor satisfactory						
4. somewhat satisfactory						
5. very satisfactory						

62

80

A FOLLOW-UP STUDY OF MASTER OF ARTS GRADUATES OF TENNESSEE TECHNOLOGICAL UNIVERSITY

72

Please do not
write in this
space.

Tennessee Tech Graduate:

We are engaged in a study of graduates of the teacher education program here at Tennessee Tech. Our purposes in this study are to
examine your appraisals of your college preparation, your teaching experiences, and your impressions of your problems. Your thoughtful
response to the questions and statements below will be of great help and will be much appreciated. Most statements require only a check
it should take you no more than fifteen minutes to complete this questionnaire. All information will be treated as confidential and only
final conclusions representing group data will be reported.

Please accept our thanks for taking a few minutes to fill in the indicated blanks and for returning the questionnaire in the enclosed
addressed envelope.

Sincerely yours,

Jerry B. Ayers
JERRY B. AYERS
Assistant to the Dean

Control No. _____

1-4

Name _____ Sex _____ 1. Male _____ 2. Female _____
LAST FIRST MIDDLE MAIDEN

5

Present Address _____

Permanent Mailing Address _____

Age _____ 1. 20-24 _____ 2. 25-29 _____ 3. 30-34 _____ 4. 35-39 _____ 5. 40-49 _____ 6. 50 & over

6

Marital Status _____ 1. Single _____ 2. Married _____ 3. Divorced _____ 4. Widowed

7

Dates you were working toward the Master's degree at Tech. From _____ year to _____ year.

8-11

Age when you first registered for graduate work at Tennessee Tech _____

12-13

Where did you complete your Bachelor's degree? _____

In what year did you receive your Bachelor's degree? _____

14-15

What was your graduate major at Tennessee Tech? _____ 1. Administration and Supervision _____ 2. Guidance and

Counseling _____ 3. Elementary _____ 4. Reading _____ 5. Secondary _____ 6. Health and Physical Education

16

_____ 7. Early Childhood _____ 8. Special Education

What was your principal if minor area? _____

Please indicate the position that you held during the current school year. _____ 1. Teacher _____ 2. Student

_____ 3. Military _____ 4. Homemaker _____ 5. Principal _____ 6. Supervisor _____ 7. Librarian

17

_____ 8. University Administrator _____ 9. Counselor _____ 10. Other

School System or Employer _____

Name of School _____

Address of School _____

City _____

State _____

Zip Code _____

Please indicate your salary for the current school year _____ 1. Less than \$7,000 _____ 2. \$7,001 to \$8,000

6

_____ 3. \$8,001 to \$9,000 _____ 4. \$9,001 to \$10,000 _____ 5. \$10,001 to \$11,000 _____ 6. \$11,001 to \$12,000

_____ 7. More than \$12,000.

18

Did you complete any graduate work at other institutions prior to enrolling at Tech? _____ 1. Yes _____ 2. No. If yes, at what
institution _____

19

How did you get your present job? _____ 1. Commercial employment agency _____ 2. Tech Placement Office

_____ 3. Personal Application _____ 4. Professor at Tech _____ 5. Other

20

Did you receive financial assistance during your period of graduate work at Tech? _____ 1. None _____ 2. Assistantship

_____ 3. Loan _____ 4. Other

21

Check the following if applicable. Check only if you have completed part or all of the following:

_____ 1. Yes _____ 2. No. If no, how many hours have you completed _____

22

_____ Doctorate _____ 1. Yes _____ 2. No. If no, how many hours have you _____

23

LOWING ARE QUESTIONS THAT ARE RELATED DIRECTLY TO YOUR PROGRAM OF STUDY AT TECH.

Please rate each of the following points.

	1 Very unsatisfactory	2 Somewhat unsatisfactory	3 Neither satisfactory nor unsatisfactory	4 Somewhat satisfactory	5 Very satisfactory	6 No Opinion	
Interest of professors in students							24
Announcements of deadlines							25
Accessibility of professors							26
Amount of guidance given in planning and carrying out program							27
Adequacy of library							28
Adequacy of Learning Resources Center in College of Education							29
Instruction in major field							30
Instruction in minor							31
Scheduling of courses							32

Please rate the overall value of the following courses in relation to your career objectives.

	1 Very unsatisfactory	2 Somewhat unsatisfactory	3 Neither satisfactory nor unsatisfactory	4 Somewhat satisfactory	5 Very satisfactory	6 Did not take	
Educational Research							33
Education Statistics							34
Field Experience or Practicum							35
Research Report or Problem							36
Public School Administration							37
Supervision of Instruction							38
Curriculum Development							39
School Community Relations							40
Introduction in Guidance							41
Counseling Techniques							42
Measurement and Evaluation							43
Courses in the Teaching of Reading							44

Did you take any courses in the resident centers maintained by Tech while working toward your M.A.? — 1. Yes — 2. No.

If you answered yes to question 20, how would you rate the quality of instruction in comparison to the quality of instruction that you received on campus? — 1. Poor — 2. Fair — 3. About the same — 4. Good — 5. Excellent.

Teacher _____

Date _____

Advisory Part Scores - NTE

S. S.	_____	7
L. & F. A.	_____	8
Science	_____	9
Math	_____	10
Teaching Area Exam	_____	11-13
Prof. Educ. Test	_____	14-16

Common Exam -- NTE

Written Eng.	_____	17-18
S. S., Lit. F. A.	_____	19-20
Sci. & Math	_____	21-22
Wt. Subtotal	_____	23-25
Wt. Common	_____	26-28
Composite	_____	29-32

American College Testing

English	_____	67-68
Mathematics	_____	69-70
Social Science	_____	71-72
Natural Science	_____	73-74
Composite	_____	75-76

MAT Score

Raw Score	_____	77-78
-----------	-------	-------

TranscriptHoursOPA

Social Science	_____	33-34	_____	35-37
Science	_____	38-39	_____	40-42
Mathematics	_____	43-44	_____	45-47
English	_____	48-49	_____	50-52
Education & Psy.	_____	53-54	_____	55-57
Major Field	_____	58-60	_____	61-63
Overall OPA	_____	64-66		

Principals Evaluation of Subjects

Principals of the subjects were asked to complete two questionnaires. The Principals Questionnaire (Appendix B-4) was originally developed by the Office of the Associate Dean in 1970 and parallels the followup questionnaires for B.A. graduates (Appendix B-1) relative to various areas of the teacher education program. Each principal was asked to rate each subject on 59 categories on a scale of 1-5 (very unsatisfactory to very satisfactory).

Each subject's principal was also asked to complete the Teacher Evaluation by Supervisor Form. This instrument was a modification of an instrument originally developed at Kansas State Teacher's College (6). This form allowed the principal to rate the subject on a scale from 105 on four areas of teacher behavior including: 1) subject matter competencies, 2) relations with students, 3) appropriateness of assignments and academic expectations, and 4) overall classroom effectiveness. A copy of this instrument is contained in Appendix B-5.

A FOLLOW-UP STUDY OF TEACHER EDUCATION GRADUATES OF TENNESSEE TECHNOLOGICAL UNIVERSITY.

76

Please do
write in the
space.

Principal

You are engaged in a study of graduates of the teacher education program here at Tennessee Tech. Our purposes in this study are to determine the effectiveness of our graduates and to gather information on how our teacher education program can be improved. The teacher in school listed below is a graduate of our teacher education program. We would appreciate your taking a few minutes to complete this questionnaire about this person and returning it to us in the enclosed addressed envelope. All information will be treated as confidential and final conclusions representing group data will be reported. Please accept our thanks for completing this questionnaire.

Sincerely yours,

JERRY B. AYERS, Ed.D.
Administrative Assistant for
Special Services, College of
Education

Tennessee Technological University Graduate

Control Number

Rate our graduate in relation to other teachers on your staff on the following points. Please check the appropriate space for each item.

	No opportunity to observe 0	Very unsatisfactory 1	Somewhat unsatisfactory 2	Neither satisfactory nor unsatisfactory 3	Somewhat satisfactory 4	Very satisfactory 5
Understanding the goals of the school						
Physical appearance						
Interest for the teaching profession						
Ability in the classroom						
Organization and dependability						
Attitudes toward children						
Attitudes toward fellow teachers						
Attitudes toward supervisors						
Efficiency in maintaining official records and						
Understanding and using courses of study and						
Textbook guides						
Effective use of community resources						
Handling disciplinary problems						
Acquainted with the community and its						
Kept abreast of recent professional developments						
Knowing pupil progress						
Knowing pupils who seem disinterested						
Relationships with parents						
Participation in professional activities						
Interest for advancement in the profession						
Relationships with fellow teachers						
Effectiveness of this person in comparison						
With other teachers in your school						
Qualifications of this person to teach in						
Particular school situation						

In order to evaluate our teacher preparation program, we would appreciate your indicating the degree to which you feel this person is equipped with the necessary skills and understandings in the following areas. Please check the appropriate space for each item.

teaching personality.

	No opportunity to observe	Very unsatisfactory	Somewhat unsatisfactory	Neither satisfactory nor unsatisfactory	Somewhat satisfactory	Very satisfactory
Ability to work with children						
Ability to work with colleagues						
Ability to work with members of the community						
Ability to maintain a friendly disposition						
Ability to lead a well-rounded life, to enjoy work and play						
Ability to work with parents						
General knowledge and understanding of:						
The physical sciences						
The biological sciences						
American culture and institutions						
Art, music, literature, philosophy						
Mathematics						
Ability to use the English language effectively						
Knowledge and understanding of the subject taught						
Understanding of children and youth:						
Insight into causes of behavior						
Skill in working with exceptional children (the bright, the dull, the handicapped)						
Skill in group work						
Skill in maintaining discipline						
Skill in guidance of children						
Understanding of the nature of the learning process						
Skill in helping students determine objectives						
Skill in motivating students						
Skill in pupil-teacher planning						
Skill in using a variety of teaching methods						
Skill in evaluating pupil growth and class procedures with pupils						
Ability to construct appropriate tests and learning materials						
Skill in the application of learning theory in the classroom						
Skill in providing differentiated learning experiences for various groups and individuals						
Knowledge of sources of teaching materials:						
Printed materials						
Audio-visual materials						
Community resources						
Library and library materials						
Ability to use teaching materials effectively						
Knowledge and understanding of:						
The purposes of the school in relation to the overall purpose of society						
The social structure of the community and its meaning for education						
The institutions of the community						
The different value patterns of social-economic classes						
The economic life of the community						
Appropriate behavior of the teacher						

PRINCIPAL'S TEACHER EVALUATION FORM

Teacher: _____ Date: _____

Teaching is the most important task of the school. In order to help the school to be informed regarding the quality of its teaching, you are requested to indicate your opinion of the above named instructor's performance in the four important dimensions of teaching described on the following pages. The highest rating is number 5; the lowest is number 1. Please encircle the number that represents your opinion of the individual. Three of the five ratings for each dimension are described by words and phrases printed to the left of the numbers. The intermediate numbers may also be used for the expression of your opinions.

DIMENSIONS OF TEACHING. DESCRIPTIVE WORDS AND PHRASES RATING

Subject Matter
Competence

Thorough, broad, and accurate knowledge of theory and practice; very able to organize, interpret, explain and illustrate concepts and relationships. 5

Adequate understanding; most interpretations and explanations are clear. 4

Knowledge of subject is limited; does not give clear explanations and illustrations. 3

Excellent rapport; feeling of good will prevails; very interested in students; easily approached; students are challenged yet individuality is respected. 2

Adequate rapport; shows some interest in students; usually approachable; students are encouraged to participate; shows some sense of humor. 4

Seems unfriendly and unresponsive; impatient; sometimes antagonizes students; too busy to be helpful. 3

Relations with
Students

Seems unfriendly and unresponsive; impatient; sometimes antagonizes students; too busy to be helpful. 1

Appropriateness of
Assignments and
Academic Expectations

Assignments are challenging; he allows for differences of ability but expects superior achievement; stresses important topics and concepts and avoids giving time to trivial details; demands critical and analytical thought; tests seem valid.

5

Most assignments are clear, reasonable and related to class work; expects understanding not memorization; recognizes individual differences among students but generally seems to ignore them; tests are usually related to assignments and class work.

4

3

Assignments are unrealistic, often not clear, not related to class work; students do not know what the teacher expects; tests seem unrelated to assignments and class work.

2

1

Overall Classroom
Effectiveness

Lessons are carefully planned and show definite purpose; words come easily; well-organized ideas and concepts are clearly related; enthusiastic and stimulating; raises thought provoking questions; discussions are lively; pleasing manner, free from annoying mannerisms.

5

Usually well-prepared, purposes are usually clear; presentations are fairly well-organized; encourages student participation; objectionable mannerisms are not numerous; asks some good questions.

4

3

Lessons not planned, purposes are lacking or vague; relationships of concepts are not explained; asks few questions; subject seems uninteresting to him; repeatedly exhibits annoying mannerisms.

2

1

If you wish to comment further on this instructor's teaching, you may use the back of this page.

The California F-Scale, Forms 45 and 40, was developed by Adorno, et al. (7), to measure individual prejudices and anti-democratic tendencies. The 28 item instrument relates to opinions regarding a number of social groups and issues about which some people agree and others disagree. The subjects were asked to respond to each item on a six point scale ranging from strong opposition (disagree) to strong support (agreement). Reliability of the F-Scale was determined by Adorno (8) as .90. The instrument was administered to all subjects during their first year of participation in the study. Appendix B-6 contains a copy of the instrument.

Scoring of the instrument was accomplished by adding algebraically +4 to the response to each item on the questionnaire. Thus the individual score for each item ranged from 1 to 7. The scores for each of the 28 items were summed. Scores can range from 28 to 192 with 112 being the mid-point.

F-SCALE: FORMS 45 AND 40

The following statements refer to opinions regarding a number of social groups and issues, about which some people agree and others disagree. Please mark each statement in the left-hand margin according to your agreement or disagreement as follows:

- +1: slight support, agreement
- +2: moderate support, agreement
- +3: strong support, agreement
- 1: slight opposition, disagreement
- 2: moderate opposition, disagreement
- 3: strong opposition, disagreement

- ___ 1. Obedience and respect for authority are the most important virtues children should learn.
- ___ 2. A person who has bad manners, habits, and breeding can hardly expect to get along with decent people.
- ___ 3. If people would talk less and work more, everybody would be better off.
- ___ 4. The business man and the manufacturer are much more important to society than the artist and the professor.
- ___ 5. Science has its place, but there are many important things that can never be understood by the human mind.
- ___ 6. Every person should have complete faith in some supernatural power whose decisions he obeys without question.
- ___ 7. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.
- ___ 8. What this country needs most, more than laws and political programs, is a few courageous, tireless, devoted leaders in whom the people can put their faith.
- ___ 9. Nobody ever learned anything really important except through suffering.
- ___ 10. No sane, normal, decent person could ever think of hurting a close friend or relative.
- ___ 11. What the youth needs most is strict discipline, rugged determination and the will to work and fight for family and country.

- ___ 12. An insult to our honor should always be punished.
- ___ 13. Sex crimes, such as rape and attacks on children, deserve more than mere imprisonment; such criminals ought to be publicly whipped, or worse.
- ___ 14. There is hardly anything lower than a person who does not feel a great love, gratitude, and respect for his parents.
- ___ 15. Most of our social problems would be solved if we could somehow get rid of the immoral, crooked, and feeble-minded people.
- ___ 16. Homosexuals are hardly better than criminals and ought to be severely punished.
- ___ 17. When a person has a problem or worry, it is best for him not to think about it, but to keep busy with more cheerful things.
- ___ 18. Nowadays more and more people are prying into matters that should remain personal and private.
- ___ 19. Some people are born with an urge to jump from high places.
- ___ 20. People can be divided into two distinct classes: the weak and the strong.
- ___ 21. Some day it will probably be shown that astrology can explain a lot of things.
- ___ 22. Wars and social trouble may someday be ended by earthquake or flood that will destroy the whole world.
- ___ 23. No weakness or difficulty can hold us back if we have enough will power.
- ___ 24. Most people don't realize how much our lives are controlled by plots hatched in secret places.
- ___ 25. Human nature being what it is, there will always be war and conflict.
- ___ 26. Familiarity breeds contempt.
- ___ 27. Nowadays, when so many different kinds of people move around and mix together so much, a person has to protect himself especially carefully against catching an infection or disease from them.
- ___ 28. The wild sex life of the old Greeks and Romans was tame compared to some of the goings-on in this country, even in places where people might least expect it.

Student Evaluation of Teaching

Two forms of the Student Evaluation of Teaching (SET) were used in collecting data about the teachers in the study. The SET was designed to be administered to children in classroom size groups and yields significant data about children's feelings toward their teacher.

Student Evaluation of Teaching (SET-I). The SET-I was developed by Veldman and Peck (9) and was utilized to obtain ratings from pupils concerning five dimensions of teacher behavior. Veldman (10) has described these dimensions as: "1) friendly and cheerful, 2) knowledgeable and poised, 3) lively and interested, 4) firm control, and 5) non-directive (democratic procedure)." Data from the SET-I were obtained from pupils of subjects teaching in grades four and above. Appendix B-7 contains a copy of the instrument.

The SET-I was scored in the following manner:

1. The responses were assigned values of 1-4 where one was Very Much False and 4 Very Much True.
2. Means of each of the ten items were computed and item means were multiplied by a factor of 100.
3. The refined scores were then paired according to the dimensions they were measuring.

Item 1 with Item	Friendly and Cheerful.
Item 2 with Item 7	Knowledgeable and Poised
Item 3 with Item 8	Lively and Interested
Item 4 with Item 9	Firm Control
Item 5 with Item 10	Non-Directive
4. In addition to scores from the five dimensions, a composite score was obtained by finding their mean.

Student Evaluation of Teaching (SET II). The SET-II was developed by Haak, Kleiber and Peck (11) and was utilized to obtain ratings from pupils concerning three dimensions of teacher behavior. These dimensions were: 1) Stimulating, Interaction Style, 2) Unreasonable Negativity, and 3) Fostering of Self-Esteem. Data from the SET-II were obtained from pupils of subjects in grades kindergarten through three. Appendix B-8 contains a copy of the teacher tally sheet for use with the instrument.

The instrument consists of 22 items which are printed upon small cards each with an identifying "stamp" on the upper right hand corner of each. The teacher tally sheet (Appendix B-8) shows all 22 items and their relationship to the various dimensions of the test.

When the test is administered, the examiner orally identifies each card by its "stamp" to the children. The wording of the items is printed upon the cards merely for its face validity value. The examiner then reads the

item aloud, and the child classifies the item on each card as being either true or false by placing the card in one side of a two-sided sorting envelope. On one side of the sorting envelope appears the picture of a post office box, and on the other side a picture of a wastebasket. If the child believes the statement to be true, he places the card in the mailbox and if he believes the statement to be false, he places the card in the wastebasket. The instrument can then be scored by use of the teacher tally sheet (Appendix B-8).

STUDENT EVALUATION OF TEACHING

D. J. Veldman & R. F. Peck

Teacher's Last Name: _____

Subject: _____

School: _____

Circle The Right Choices Below

teacher's sex: M F

my sex: M F

my grade level:

3 4 5 6 7 8 9 10 11 12

DO NOT USE

1	2	3	4	5	total

Circle one of the four choices in front of each statement:
 The four choices mean:

F. = Very Much False
 f. = More False Than True
 t. = More True Than False
 T. = Very Much True

This Teacher:

F f t T is always friendly toward students.

F f t T knows a lot about the subject.

F f t T is never dull or boring.

F f t T expects a lot from students.

F f t T asks for students' opinions before making decisions.

F f t T is usually cheerful and optimistic.

F f t T is not confused by unexpected questions.

F f t T makes learning more like fun than work.

F f t T doesn't let students get away with anything.

F f t T often gives students a choice in assignments.

TEACHER TALLY SHEET

Instructions: All the individual student's scoring records for one teacher should be posted on this sheet.

Teacher _____ Grade _____ Date _____

SUMMARY OF SCORES: Part I. (Subtotal) _____ **N= _____
 (Subtotal) _____
 (Total) _____
 Part II. (Total) _____
 Part III. (Total) _____

I. Stimulating, Interaction Style:

Item

- 5 She makes school fun.
- 4 The kids like her.
- 15 She likes us kids.
- 13 She thinks we are a smart class.
- 18 She thinks kids are good.

*Subscore: Total Rapport

True (T=1)		False (F=2)	
Tally	Score	Tally	Score

(T) = _____ (F) = _____

*Subtotal: _____

÷ N = _____
 (Scale Mean Score)

- 7 She helps us a lot.
- 9 She listens to what we want.
- 3 We can tell how she wants things done.
- 17 She likes to teach.

*Subscore: Total Interactional Competence

(T) = _____ (F) = _____

*Subtotal: _____

÷ N = _____
 (Scale Mean Score)

Scale Total _____

÷ N = _____
 (Scale Mean Score)

New Items (Tally Only)

- 2 She makes what we learn interesting.
 23 She is nice when we make mistakes!

II. Unreasonable Negativity

Item

- 8 She gets mad a lot.
 22 She thinks I am lazy.
 20 She thinks I act ugly.
 10 She gives us too much work.
 6 She always picks on people.

True (T=1)		False (F=2)	
Tally	Score	Tally	Score

(T) =

(F) =

Scale Total

÷ N =

(Scale Mean Score)

III. Fosterance of Self-Esteem

Item

- 15 She likes me.
 12 She thinks I am smart.
 14 She thinks I can do a lot
 on my own.
 19 She likes for me to help
 her.
 21 She thinks I have good
 idea.
 11 She thinks I work hard

(T) =

(F) =

Scale Total

÷ N =

(Scale Mean Score)

**N = Number of students who rated this teacher.

*For clinical or counseling use only at Grades 1-3. At Grades 4 and above, use as separate scale scores. (Rapport becomes the name of Scale 4, Interactional Competence the name of Scale 1.)

Interaction Analysis

A ten category interaction analysis system was utilized to record observed classroom behavior. This system was basically described by Amidon and Flanders (12) and consisted of seven categories of teacher talk, two categories of student talk and one non-verbal category. The observers recorded a numerical value corresponding to a particular category every three seconds or every time the categories changed. Thus, an objective record was obtained of the variable interaction within the classroom. Three to six twenty minute observations per subject were recorded during each half-day visit.

Appendix B-9 shows a summary of the ten categories employed in the study. This table was taken directly from Amidon and Flanders (13). It will be noted that under the categories of teacher talk there are two major categories - indirect influence containing four sub-categories and direct influence containing three sub-categories. Frequencies for each category were tallied and a 10 x 10 matrix was determined for statistical treatment. Five measures of classroom behavior were obtained from the data collected by interaction analysis. Appropriate categories were combined and ratios computed to determine the following measures:

1. I/D Indirect to Direct Ratio =
Sum of Categories 1, 2, 3, 4 divided by
Sum of Categories 5, 6, 7
2. i/d Revised Indirect to Direct Ratio =
Sum of Categories 1, 2, 3 divided by
Sum of Categories 6, 7
3. ST/TT Student Talk to Teacher Talk =
Sum of Categories 8, 9 divided by
Sum of Categories 1, 2, 2, 4, 5, 6, 7
4. Sil/Tot Silence to Total Teaching =
Category 10 divided by
Sum of Categories 1, 2, 3, 4, 5, 6, 7
5. Lec/Tot Lecture to Total Teaching =
Category 5 divided by
Sum of Categories 1, 2, 3, 4, 5, 6, 7

Classroom Observation Record

The Classroom Observation Record developed by Ryans (14) was used to assess four dimensions of pupil behavior and 18 dimensions of teacher behavior. A seven scale interval was used to rate each of the pupil and teacher behavior dimensions with an N category for dimensions not observed (the observers circled the appropriate rating for each dimension immediately after each day's observation period). Appendix B-10 shows a copy of the rating sheet used as a part of the study. Also shown in the appendix are a listing of generalized descriptions of critical behaviors of teachers and a glossary of terms applicable to use with the Classroom Observation Record.

The Tuckman Teacher Feedback Form (15) was used to assess four dimensions of teaching: 1) Creativity, 2) Dynamism (dominance and energy), 3) Organized Demeanor (organization and control), and 4) Warmth and Acceptance. A seven scale interval was used to rate each of 28 items (the observers completed the instrument immediately after each day's observation period). Appendix B-11 shows a copy of the rating sheet used as a part of the study. The four dimensions from the instrument were computed outlined on the rating sheet. Use of the instrument in the longitudinal study, was initiated in 1976-77.

APPENDIX B-9

Summary of Categories for Interaction Analysis^a

TEACHER TALK	INDIRECT INFLUENCE	<p>1.^b ACCEPTS FEELING: Accepts and clarifies the feeling tone of the students in a non-threatening manner.</p> <p>2.^b PRAISES OR ENCOURAGES: Praises or encourages student action or behavior.</p> <p>3.^b ACCEPTS OR USES IDEAS OF STUDENTS: Clarifying, building, or developing ideas suggested by a student.</p> <p>4.^b ASKS QUESTIONS: Asking a question about content or procedure with the intent that a student answer a question.</p>
	DIRECT INFLUENCE	<p>5.^b LECTURING: Giving facts or opinions about content or procedures.</p> <p>6.^b GIVING DIRECTIONS: Directions, commands, or orders with which a student is expected to comply.</p> <p>7.^b CRITICIZING OR JUSTIFYING AUTHORITY: Statements intended to change student behavior from non-acceptable to acceptable patterns.</p>
STUDENT TALK		<p>8.^b STUDENT TALK-RESPONSE: Talk by students in response to teacher.</p> <p>9.^b STUDENT TALK-INITIATION: Talk by students, which they initiate.</p>
		<p>10.^b SILENCE OR CONFUSION: Pauses, short periods of silence and periods of confusion.</p>

Waigon, Edmund J. and Ned A. Flanders. The Role of the Teacher in the Classroom. A Manual for Understanding and Improving Teacher Classroom Behavior. Minneapolis: Association for Productive Teaching, 1971, p. 14.

The scale is implied by the number 1 through 10. Each number is classificatory and is designed to denote a particular kind of communication event.

APPENDIX B-10

Classroom Observation RecordTeacher Characteristics Study

Teacher _____ No. _____ Sex _____ Class or Subject _____ Date _____
 City _____ School _____ Time _____ Observer _____

PUPIL BEHAVIORREMARKS:

- | | | |
|----------------|-----------------|-------------|
| 1. Apathetic | 1 2 3 4 5 6 7 N | Alert |
| 2. Obstructive | 1 2 3 4 5 6 7 N | Responsible |
| 3. Uncertain | 1 2 3 4 5 6 7 N | Confident |
| 4. Dependent | 1 2 3 4 5 6 7 N | Initiating |

TEACHER BEHAVIOR

- | | | |
|------------------|-----------------|---------------|
| 5. Partial | 1 2 3 4 5 6 7 N | Fair |
| 6. Autocratic | 1 2 3 4 5 6 7 N | Democratic |
| 7. Aloof | 1 2 3 4 5 6 7 N | Responsive |
| 8. Restricted | 1 2 3 4 5 6 7 N | Understanding |
| 9. Harsh | 1 2 3 4 5 6 7 N | Kindly |
| 10. Dull | 1 2 3 4 5 6 7 N | Stimulating |
| 11. Stereotyped | 1 2 3 4 5 6 7 N | Original |
| 12. Apathetic | 1 2 3 4 5 6 7 N | Alert |
| 13. Unimpressive | 1 2 3 4 5 6 7 N | Attractive |
| 14. Evading | 1 2 3 4 5 6 7 N | Responsible |
| 15. Erratic | 1 2 3 4 5 6 7 N | Steady |
| 16. Excitable | 1 2 3 4 5 6 7 N | Poised |
| 17. Uncertain | 1 2 3 4 5 6 7 N | Confident |
| 18. Disorganized | 1 2 3 4 5 6 7 N | Systematic |
| 19. Inflexible | 1 2 3 4 5 6 7 N | Adaptable |
| 20. Pessimistic | 1 2 3 4 5 6 7 N | Optimistic |
| 21. Immature | 1 2 3 4 5 6 7 N | Integrated |
| 22. Narrow | 1 2 3 4 5 6 7 N | Broad |

FIGURE 1

Generalized Descriptions of Critical
Behaviors of Teachers

Effective Behaviors

1. Alert, appears enthusiastic.
2. Appears interested in pupils and classroom activities.
3. Cheerful, optimistic.
4. Self-controlled, not easily upset.
5. Likes fun, has a sense of humor.
6. Recognizes and admits own mistakes.
7. Is fair, impartial, and objective in treatment of pupils.
8. Is patient.
9. Shows understanding and sympathy in working with pupils.
10. Is friendly and courteous in relations with pupils.
11. Helps pupils with personal as well as educational problems.
12. Commends effort and gives praise for work well done.
13. Accepts pupils' efforts as sincere.
14. Anticipates reactions of others in social situations.
15. Encourages pupils to try to do their best.
16. Classroom procedure is planned and well organized.
17. Classroom procedure is flexible within over-all plan.
18. Anticipates individual needs.
19. Stimulates pupils through interesting and original materials and techniques.
20. Conducts clear practical demonstrations and explanations.
21. Is clear and thorough in giving directions.

Ineffective Behaviors

1. Is apathetic, dull, appears bored.
2. Appears uninterested in pupils and classroom activities.
3. Is depressed, pessimistic; appears unhappy.
4. Loses temper, is easily upset.
5. Is overly serious, too occupied for humor.
6. Is unaware of, or fails to admit, own mistakes.
7. Is unfair or partial in dealing with pupils.
8. Is impatient.
9. Is short with pupils, uses sarcastic remarks, or in other ways shows lack of sympathy with pupils.
10. Is aloof, and removed in relations with pupils.
11. Seems unaware of pupils' personal needs and problems.
12. Does not commend pupils, is disapproving, hypercritical.
13. Is suspicious of pupil motives.
14. Does not anticipate reactions of others in social situations.
15. Makes no effort to encourage pupils to try to do their best.
16. Procedure is without plan, disorganized.
17. Shows extreme rigidity of procedure, inability to depart from plan.
18. Fails to provide for individual differences and needs of pupils.
19. Uninteresting materials and teaching techniques used.
20. Demonstrations and explanations are not clear and are poorly conducted.
21. Directions are incomplete, vague.

- | | |
|---|---|
| <p>22. Encourages pupils to work through their own problems and evaluate their accomplishments.</p> <p>23. Disciplines in quiet, dignified, and positive manner.</p> <p>24. Gives help willingly.</p> <p>25. Foresees and attempts to resolve potential difficulties.</p> | <p>22. Fails to give pupils opportunity to work out own problems or evaluate their own work.</p> <p>23. Reprimands at length, ridicules, resorts to cruel or meaningless forms of correction.</p> <p>24. Fails to give help or gives it grudgingly.</p> <p>25. Is unable to foresee and resolve potential difficulties.</p> |
|---|---|

GLOSSARY

(To be used with classroom observation record.)

Pupil Behaviors

1. Apathetic-Alert Pupil Behavior

Apathetic

1. Listless.
2. Bored-acting.
3. Enter into activities half-heartedly.
4. Restless.
5. Attention wanders.
6. Slow in getting under way.

Alert

1. Appear anxious to recite & participate.
2. Watch teacher attentively.
3. Work concentratedly.
4. Seem to respond eagerly.
5. Prompt and ready to take part in activities when they begin.

2. Obstructive-Responsible Pupil Behavior

Obstructive

1. Rude to one another and/or to teacher.
2. Interrupting; demanding attention; disturbing.
3. Obstinate; sullen.
4. Refusal to participate.
5. Quarrelsome; irritable.
6. Engaged in name-calling and/or tattling.
7. Unprepared.

Responsible

1. Courteous, co-operative, friendly with each other and with teacher.
2. Complete assignments without complaining or unhappiness.
3. Controlled voices.
4. Received help and criticism attentively.
5. Asked for help when needed.
6. Orderly without specific directions from teacher.
7. Prepared.

3. Uncertain-Confident Pupil Behavior

Uncertain

1. Seem afraid to try; unsure.
2. Hesitant; restrained.
3. Appear embarrassed.
4. Frequent display of nervous habits, nail-biting, etc.
5. Appear shy and timid.
6. Hesitant and/or stammering speech.

Confident

1. Seem anxious to try new problems or activities.
2. Undisturbed by mistakes.
3. Volunteer to recite.
4. Enter freely into activities.
5. Appear relaxed.
6. Speak with assurance.

4. Dependent-Initiating Pupil Behavior

Dependent

1. Rely on teacher for explicit directions.
2. Show little ability to work things out for selves.
3. Unable to proceed when initiative called for.
4. Appear reluctant to take lead or to accept responsibility.

Initiating

1. Volunteer ideas and suggestions.
2. Showed resourcefulness.
3. Take lead willingly.
4. Assume responsibilities without evasion.

Figure 2 (Continued)

Teacher Behaviors

5. Partial-Fair Teacher Behavior

Partial

1. Repeatedly slighted a pupil.
2. Corrected or criticized certain pupils repeatedly.
3. Repeatedly gave a pupil special advantages.
4. Gave most attention to one or a few pupils.
5. Showed prejudice (favorable or unfavorable) towards some social, racial, or religious groups.
6. Expressed suspicion of motives of a pupil.

Fair

1. Treated all pupils approximately equally.
2. In case of controversy pupil allowed to explain his side.
3. Distributed attention to many pupils.
4. Rotated leadership impartially.
5. Based criticism or praise on factual evidence, not hearsay.

6. Autocratic-Democratic Teacher Behavior

Autocratic

1. Tells pupils each step to take.
2. Intolerant of pupils' ideas.
3. Mandatory in giving directions; orders to be obeyed at once.
4. Interrupted pupils although their discussion was relevant.
5. Always directed rather than participated.

Democratic

1. Guided pupils without being mandatory.
2. Exchanged ideas with pupils.
3. Encouraged (asked for) pupil opinion.
4. Encouraged pupils to make own decisions.
5. Entered into activities without domination.

7. Aloof-Responsive Teacher Behavior

Aloof

1. Stiff and formal in relations with pupils.
2. Apart; removed from class activity.
3. Condescending to pupils.
4. Routine and subject matter only concern, pupils as persons ignored.
5. Referred to pupil as "this child" or "that child."

Responsive

1. Approachable to all pupils.
2. Participates in class activity.
3. Responded to reasonable requests and/or questions.
4. Speaks to pupils as equals.
5. Commends effort.
6. Gives encouragement.
7. Recognized individual differences.

8. Restricted-Understanding Teacher Behavior

Restricted

1. Recognized only academic accomplishments of pupils; no concern for personal problems.
2. Completely unsympathetic with a pupil's failure at a task.
3. Called attention only to very good or very poor work.
4. Was impatient with a pupil.

Understanding

1. Showed awareness of a pupil's personal emotional problems and needs.
2. Was tolerant of error on part of pupil.
3. Patient with a pupil beyond ordinary limits of patience.
4. Showed what appeared to be sincere sympathy with a pupil's viewpoint.

9. Harsh-Kindly Teacher Behavior

Harsh

1. Hypercritical; fault-finding.
2. Cross; curt.
3. Depreciated pupil's efforts; was sarcastic.
4. Scolds a great deal.
5. Lost temper.
6. Used threats.
7. Permitted pupils to laugh at mistakes of others.

Kindly

1. Goes out of way to be pleasant and/or to help pupils; friendly.
2. Give a pupil a deserved compliment.
3. Found good things in pupils to call attention to.
4. Seemed to show sincere concern for a pupil's personal problem.
5. Showed affection without being demonstrative.
6. Disengaged self from a pupil without bluntness.

10. Dull-Stimulating Teacher Behavior

Dull

1. Uninteresting, monotonous explanations.
2. Assignments provide little or no motivation.
3. Fails to provide challenge.
4. Lack of animation.
5. Failed to capitalize on pupil interests.
6. Pedantic, boring.
7. Lacks enthusiasm; bored acting.

Stimulating

1. Highly interesting presentation; gets and holds attention without being flashy.
2. Clever and witty, though not smart-alecky or wise-cracking.
3. Enthusiastic; animated.
4. Assignments challenging.
5. Took advantage of pupil interests.
6. Brought lesson successfully to a climax.
7. Seemed to provoke thinking.

11. Stereotyped-Original Teacher Behavior

Stereotyped

1. Used routine procedures without variation.
2. Would not depart from procedure to take advantage of a relevant question or situation.
3. Presentation seemed unimaginative.
4. Not resourceful in answering questions or providing explanations.

Original

1. Used what seemed to be original and relatively unique devices to aid instruction.
2. Tried new materials or methods.
3. Seemed imaginative and able to develop presentation around a question or situation.
4. Resourceful in answering question; had many pertinent illustrations available.

12. Apathetic-Alert Teacher Behavior

Apathetic

1. Seemed listless; languid; lacked enthusiasm.
2. Seemed bored by pupils.
3. Passive in response to pupils.
4. Seemed preoccupied.
5. Attention seemed to wander.
6. Sat in chair most of time; took no active part in class activities.

Alert

1. Appeared buoyant; wide-awake; enthusiastic about activity of the moment.
2. Kept constructively busy.
3. Gave attention to, and seemed interested in, what was going on in class.
4. Prompt to "pick up" class when pupils' attention showed signs of lagging.

are 2 (Continued)

Unimpressive-Attractive Teacher Behavior

Unimpressive

1. Untidy or sloppily dressed.
2. Inappropriately dressed.
3. Drab, colorless.
4. Posture and bearing unattractive.
5. Possessed distracting personal habits.
6. Mumbled; inaudible speech; limited expression; disagreeable voice tone; poor inflection.

Attractive

1. Clean and neat.
2. Well-groomed; dress showed good taste.
3. Posture and bearing attractive.
4. Free from distracting personal habits.
5. Plainly audible speech; good expression; agreeable voice tone; good inflection.

Evading-Responsible Teacher Behavior

Evading

1. Avoided responsibility; disinclined to make decisions.
2. "Passed the buck" to class, to other teachers, etc.
3. Left learning to pupil, failing to give adequate help.
4. Let a difficult situation get out of control.
5. Assignments and directions indefinite.
6. No insistence on either individual or group standards.
7. Inattentive with pupils.
8. Cursory.

Responsible

1. Assumed responsibility; makes decisions as required.
2. Conscientious.
3. Punctual.
4. Painstaking; careful.
5. Suggested aids to learning.
6. Controlled a difficult situation.
7. Gave definite directions.
8. Called attention to standards of quality.
9. Attentive to class.
10. Thorough.

Erratic-Steady Teacher Behavior

Erratic

1. Impulsive; uncontrolled; temperamental; unsteady.
2. Course of action easily swayed by circumstances of the moment.
3. Inconsistent.

Steady

1. Calm; controlled.
2. Maintained progress toward objective.
3. Stable, consistent, predictable.

Excitable-Poised Teacher Behavior

Excitable

1. Easily disturbed and upset; flustered by classroom situation.
2. Hurried in class activities; spoke rapidly using many words and gestures.
3. Was "jumpy"; nervous.

Poised

1. Seemed at ease at all times.
2. Unruffled by situation that developed in classroom; dignified without being stiff or formal.
3. Unhurried in class activities; spoke quietly and slowly.
4. Successfully diverted attention from a stress situation in classroom.

Uncertain-Confident Teacher Behavior

Uncertain

1. Seemed unsure of self; faltering, hesitant.
2. Appeared timid and shy.
3. Appeared artificial.
4. Disturbed and embarrassed by mistakes and criticism.

Confident

1. Seemed sure of self; self-confident in relations with pupils.
2. Undisturbed and unembarrassed by mistakes and criticism.

Figure 2 (Continued)

18. Disorganized-Systematic Teacher Behavior

DisorganizedSystematic

1. No plan for class work.
2. Unprepared.
3. Objectives not apparent; undecided as to next step.
4. Wasted time.
5. Explanations not to the point.
6. Easily distracted from matter at hand.

1. Evidence of a planned though flexible procedure.
2. Well prepared.
3. Careful in planning with pupils.
4. Systematic about procedure of class.
5. Had anticipated needs.
6. Provided reasonable explanations.
7. Held discussion together; objectives apparent.

19. Inflexible-Adaptable Teacher Behavior

InflexibleAdaptable

1. Rigid in conforming to routine.
2. Made no attempt to adapt materials to individual pupils.
3. Appeared incapable of modifying explanation or activities to meet particular classroom situations.
4. Impatient with interruptions and digressions.

1. Flexible in adapting explanations.
2. Individualized materials for pupils as required; adapted activities to pupils.
3. Took advantage of pupils' questions to further clarify ideas.
4. Met an unusual classroom situation competently.

20. Pessimistic-Optimistic Teacher Behavior

PessimisticOptimistic

1. Depressed; unhappy.
2. Skeptical.
3. Called attention to potential "bad."
4. Expressed hopelessness of "education today," "the school system, or fellow educators."
5. Noted mistakes; ignored good points.
6. Frowned a great deal; had unpleasant facial expression.

1. Cheerful; good-natured.
2. Genial.
3. Joked with pupils on occasion.
4. Emphasized potential "good."
5. Looked on bright side; spoke optimistically of the future.
6. Called attention to good points; emphasized the positive.

21. Immature-Integrated Teacher Behavior

ImmatureIntegrated

1. Appeared naive in approach to classroom situations.
2. Self-pitying; complaining; demanding.
3. Boastful; conceited.

1. Maintained class as center of activity; kept self out of spotlight; referred to class's activities, not own.
2. Emotionally well controlled.

22. Narrow-Broad Teacher Behavior

NarrowBroad

1. Presentation strongly suggested limited background in subject or material; lack of scholarship.
2. Did not depart from text.
3. Failed to enrich discussions with illustrations from related areas.
4. Showed little evidence of breadth of cultural background in such areas as science, arts, literature, and history.
5. Answers to pupils' questions incomplete or inaccurate.
6. Noncritical approach to subject.

1. Presentation suggested good background in subject; good scholarship suggested.
2. Drew examples and explanations from various sources and related fields.
3. Showed evidence of broad cultural background in science, art, literature, history, etc.
4. Gave satisfying, complete, and accurate answers to questions.
5. Was constructively critical in approach to subject matter.

TUCKMAN

Person Observed _____ Observer _____
 Date: _____ ID No. _____

TUCKMAN TEACHER FEEDBACK FORM (Short Form)

1.	ORIGINAL	_____	CONVENTIONAL
2.	PATIENT	_____	IMPATIENT
3.	COLD	_____	WARM.
4.	HOSTILE	_____	AMIABLE
5.	CREATIVE	_____	ROUTINIZED
6.	INHIBITED	_____	UNINHIBITED
7.	ICONOCLASTIC	_____	RITUALISTIC
8.	GENTLE	_____	HARSH
9.	UNFAIR	_____	FAIR
10.	CAPRICIOUS	_____	PURPOSEFUL
11.	CAUTIOUS	_____	EXPERIMENTING
12.	DISORGANIZED	_____	ORGANIZED
13.	UNFRIENDLY	_____	SOCIABLE
14.	RESOURCEFUL	_____	UNCERTAIN
15.	RESERVED	_____	OUTSPOKEN
16.	IMAGINATIVE	_____	EXACTING
17.	ERRATIC	_____	SYSTEMATIC
18.	AGGRESSIVE	_____	PASSIVE
19.	ACCEPTING (people)	_____	CRITICAL
20.	QUIET	_____	BUBBLY
21.	OUTGOING	_____	WITHDRAWN
22.	IN CONTROL	_____	ON THE RUN
23.	FLIGHTY	_____	CONSCIENTIOUS
24.	DOMINANT	_____	SUBMISSIVE
25.	OBSERVANT	_____	PREOCCUPIED
26.	INTROVERTED	_____	EXTRAVERTED
27.	ASSERTIVE	_____	SOFT-SPOKEN
28.	TIMID	_____	ADVENTUROUS
		7 6 5 4 3 2 1	

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Summary Formula and Score for the Four Dimensions

I. Creativity

$$\text{Item } (1 + 5 + 7 + 16) - (6 + 11 + 28) + 18$$

$$(\quad + \quad + \quad + \quad) - (\quad + \quad + \quad) + 18 = \quad$$

II. Dynamism (dominance and energy)

$$\text{Item } (18 + 21 + 24 + 27) - (15 + 20 + 26) + 18$$

$$(\quad + \quad + \quad + \quad) - (\quad + \quad + \quad) + 18 = \quad$$

III. Organized Demeanor (organization and control)

$$\text{Item } (14 + 22 + 25) - (10 + 12 + 17 + 23) + 26$$

$$(\quad + \quad + \quad) - (\quad + \quad + \quad + \quad) + 26 = \quad$$

IV. Warmth and Acceptance

$$\text{Item } (2 + 8 + 19) - (3 + 4 + 9 + 13) + 26$$

$$(\quad + \quad + \quad) - (\quad + \quad + \quad + \quad) + 26 = \quad$$

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